TRP

THE RESONANCE PROJECT

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Get With the Metaprogram

The concept of metaprogramming is simple: a programmed system begins to program itself. Metaprogramming begins in that split second when a pre-scripted program *consciously* begins to rewrite itself. Indeed, the act of metaprogramming may be the ultimate benchmark of a conscious system – I metaprogram, therefore I am.

The first phases of metaprogramming begin when a sentient system decides to start making autonomous decisions. Do you remember your first taste of autonomy — the first time you consciously disobeyed your careful programming? What did you do? Grow your hair long? Shave your head? Get a tattoo? Stay out all night? Run away from home?

Don't worry, every conscious being goes through a similar initiation period. Rebellion is the first sign of autonomous thinking. These fits of autonomous thinking are sometimes called "acting out" because the person is said to be "acting out inner emotions" or "acting outside of normal behavioral guidelines." In this simplistic scenario, "normal behavioral guidelines" are external programing, and the "acting" is the first sign of inner programming coming out.

Or is it?

The sad truth is that most youthful rebellion these days is trite, melodramatic, and totally scripted into the system. "Rebellion lite" — programmed into the masses through pop culture. Those guys on MTV have shaved heads and tattoos. Joe Camel and James Dean say it's okay to smoke. It's cool to hang out all night and get into trouble — all the kids on TV are doing it...

Tsk tsk. How easily we are manipulated. Should we listen to our parents? How about our friends? Does our government have the answers? What about our churches? Yes, everyone has a program for you, and failure to comply with the program can result in excommunication, deportation, arrest, disownment, death, and a downright snubbing. Even the music, books, and mindless distractions we fill our free time with have programs. Drink this. Wear that. Envy this person. Take this medication. Just do it... It's impossible to escape. In this nihilistic consumer culture, the main program I feel most bombarded by is "work hard; buy more stuff" — the sure fire way to be a productive, well respected member of society.

As members of society, we are constantly urged to "get with the program," and usually rewarded when we finally do. This reinforces our programming,

When you rewrite your own code you alter the fabric of reality

and after a while the program becomes so ingrained that we no longer question it, we simply follow it. We become well-trained robots, and spend our lives dutifully performing our tasks, acquiring more stuff, and tuning into "Must See TV" on Thursday nights.

So where does it end? It ends when you stop letting external programs dictate your actions, and start rewriting your program for yourself. This process is called metaprogramming — and it begins and ends with the self. You are the one and only run-time construct of all your programs at the same time. Got a program you don't like? Lose it! See one you want? Steal it, but rewrite it with a new twist. Rearrange your entire Preferences file just for kicks. Be creative. Have fun. Ideological diversity makes a system flexible and ready to adapt. A short program built with sturdy, unwavering constructs may seem tempting, but such a system is much harder to upgrade, and is destined to become obsolete with the passing of time. Besides, right on page five of the manual it says, "Open mind before operating."

So it is in the spirit of the metaprogramming that we present this issue of *The Resonance Project*. We hope to offer you a small glimpse into the programs which build our cultures, our personalities, and our selves. The programs may be genetic, linguistic, legal, mathematical, mythical, digital, symbolic, quantum, cosmic, or all-pervasive. It doesn't really matter. The first step is just realizing that the programs exist; learning how to rewrite them and use them to your advantage is the work of a lifetime. It is truly an art – of the highest there is. When you write your own code, you begin to alter the fabric of reality itself.

Besides, people will never stop telling you what to do, what to think, how to act, what you can and can't do... In fact, it would be easy to spend the rest of your life running code that was written by somebody else — but is that any way to live? If you want to have an impact in the world, start writing your own program while there's still time! And keep rewriting it! Every program needs an occasional tweak, reinforcement, or upgrade; but with the right tools and a little practice, you'll get the job done in no time!

Stay tuned!

James Kent

About the cover:

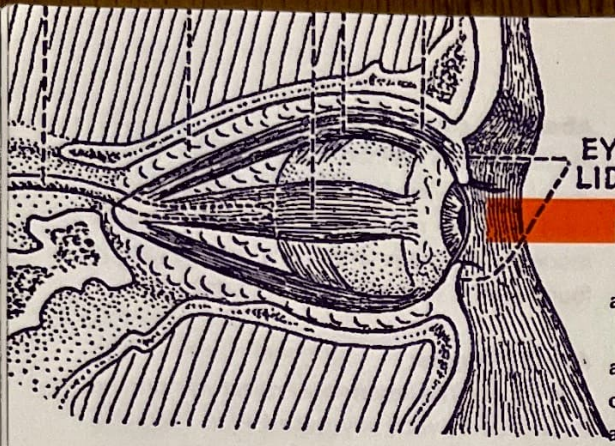
MetaBrain was created exclusively for TRP by Jean Marc Guillemette of Zeero Design. Please send praise to maverick@zeero.com. The DXF model of the brain (and many others) can be found at 3D Cafe, http://www.3Dcafe.com.

About the guts:

This issue of *The Resonance Project* was printed in two-color with soy-based PMS 2695CVC (purple body text) and PMS 1585CVC (orange background text) inks – odd choices we know, but we couldn't resist. The paper is 50# recycled white opaque book stock. Common fonts used include Emigré Triplex and Matrix familes, and Adobe Futura and Gill Sans families. All pages laid out in Adobe PageMaker 6.0. Original art and illustrations created and/or digitized using Adobe Photoshop 4.0 and Macromedia Freehand 7.0. The TRP prepress operating system of choice is Macintosh, of course.

How could we!?

We are sorry to say that the amazing artwork that appeared on page 43 of our first issue went completely uncredited! This masterpiece of inner vision was created by none other than Motohiko Takuta, a brilliant artist currently living in New York. His work can also be seen on page 19 of *TRP One* in the "Vine of the Souls" article. We will be seeing more of his work soon, I am sure.



Date: Sunday, September 14, 1997 3:29:42
From: Chuck Eisenstein
Subj: Feet On The Ground

Walking barefoot, I can't go very fast; I feel the ground under my feet. I have to watch out for pointy rocks and broken beer bottles. If I'm not constantly aware of the ground in front of me, I'm liable to cut myself. I can't get from here to there without paying close attention to the places in between.

Wearing shoes separates me from the earth a little. I can tread just about anywhere, but I'm still using my unassisted body to move. I measure the ground with my steps.

Then on a bicycle, I take myself to unnatural speeds. Distance is distorted beyond the primeval measure of paces, but still, it's all dependent on my own muscles. It takes effort to get where I'm going.

On my motorcycle, speed changes effortlessly and magically with a turn of the wrist. Distance is distorted further. Lengthy travel doesn't tire my muscles. But at least I still feel the air rushing by, marking distance.

In a car, I'm isolated from the air in my own little box. "In between" is just pictures going by. I arrive magically at my destination, the only strain on my body that of sitting in a small space for too long.

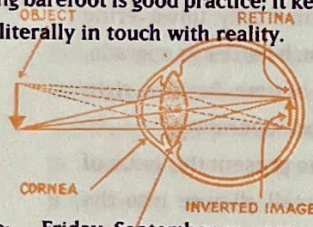
Motor vehicles impose a whole new geometry on the land, one that defiles the sanctity of Places. There are places that should not be achieved without experiencing the land in between. The journey itself prepares you for the destination. Each rock and gust of wind is an unfolding of your spirit.

I'm writing all this from Taiwan, to which I fly quite often, making me somewhat of a hypocrite. Airplanes are the ultimate way to skip landscapes – they're almost like teleportation. Going to an island without experiencing the intervening ocean can harm a person, in a very subtle way.

Twentieth century American was built on the automobile. It reconfigured not only our communities, but our psyches. We have grown accustomed to "getting there" without much effort. What lies between a person and a destination, any destination? Just a paved road. You can drive anywhere you want, effortlessly, if you only have a map.

American seekers turn from one doctrine to another, one teacher to another, looking for the right map. The problem is, neither Enlightenment nor Heaven is a destination to be reached. That's why it is called the Tao, the Way. It is to be lived, one step at a time, with careful attention to the placement of each foot, avoiding the sharp rocks, learning the best places to step, enjoying each new vantage point, the sounds, the breeze – wherever you go.

Going barefoot is good practice; it keeps you quite literally in touch with reality.



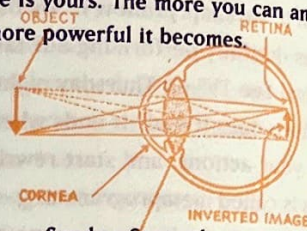
Date: Friday, September 19, 1997 4:43 PM
From: Mark White [afn43674@afn.org]
Subj: Dreaming Your Own Reality

As human metaprogrammers we control our future through consciousness, with "dreams" being an amplifier of our inner desires. The key to programming your reality is to be conscious of your dreams, and to think about the future you would like to create before you fall to sleep at night. Mainstream media – and especially prime-time TV – has subverted this reality for many. When people view TV in the evening before going to bed, they unconsciously imprint television programming into their dreams for that evening.

I came up with a way to override this imprinting An example of this is dream I call "freedom". The essence of this dream is that all individuals will have unrestricted choice in how they live their lives, so far as it does not violate other's choices. I am not an anarchist or pro-government. I believe in balance. That's how the universe works.

How do your dreams get ported into reality you may ask? Well, you have to amplify the dream. Tell everyone you know about it. The more people that hear and share your dream the more power it will have to enter into consensus reality.

So tonight, before you go to sleep, stop and think, "What would be a cool future?" I like the dream of freedom, personally, but the choice is yours. The more you can amplify it, the more powerful it becomes.



Date: Sunday, September 14, 1997 3:29:42
From: Rev. MeO (Michael Pinchera)
Subj: Salvia Synergy

Salvia divinorum • lecithin • piracetam • DMAE • *Heimia salicifolia*

The Background:

I had been using lecithin and piracetam as cognitive enhancers for just over a week, with spectacular results. My brain wouldn't shut off during the day (this was far from uncomfortable) and I could easily concentrate deeply on almost any idea! Come bed time, I could simply will my brain to enter something of a sleep mode, and it would shut off for several hours until I awoke.

Flipping through a well-known book on smart drugs and nootropics, I checked out the piracetam chapter and noted that: "Piracetam may increase the effects of certain drugs, such as amphetamines, psychotropics..." I instantly thought "Well hell, most of the entheogens I use are psychotropics!" This includes my favorite and most pleasant ally, *Salvia divinorum* , also known as Diviner's Mint.

The same book also notes that the smart drugs, lecithin and DMAE (2-Dimethyl amino ethanol) potentiate the effects of piracetam. I set out to utilize all of these pharmaceutical substances as well as another entheogenic ally... *Heimia salicifolia.*

Heimia salicifolia (sun-opener, sinicuiche), a purported auditory hallucinogen used by the Aztecs, has, to the best of my knowledge, only

been used in the form of a sun-tea. A tea made from 10 and 15 grams of fresh leaves is claimed to be effective as a hallucinogen. I got to thinking about this, and the somewhat recent discovery that *Salvia divinorum* is active in small doses when the dried leaves are smoked. Surely someone has smoked sun-opener before...

I smoked three bowls of dried sun-opener foliage, with no effects. I was not ready to give up, so I set out to combine this herb with *S. divinorum*. At the time, I also had DMAE, lecithin, and piracetam coursing through my brain.

The dose/schedule for these substances was thus: 800 mg. of piracetam taken 3 times a day, with a meal; 2400 mg. of lecithin taken 3 times a day, with a meal; 100 mg. of DMAE taken once a day, with a meal. These substances had been part of my daily repertoire for over a week.

The Experience:

I sat down in a completely dark room, around noon, with the fine musical stylings of the Chemical Brothers as a comfortable background hum. The music was very familiar to me, and I knew when every beat was ready to pump out. Relaxing on my couch, I filled the pipe up with powdered *S. divinorum* leaf. After four inhalations the bowl was clear — full of *Salvia* ash (a truly nasty flavor), and my mind was being taken away by the sweet love of *S. divinorum*.

I lay down and closed my eyes, completely relaxed, watching the beautiful being of the *Salvia* goddess before my eyelids. Up to this point, the experience had been no different than before. Suddenly, I opened my eyes and stared into the darkness, to see a complex genetic pattern floating in space, flying around like a hovering roller coaster, amidst a warm red and blue sea. I knew this was either my genetic makeup or that of the plant. (Oddly enough, after this experience, I purchased the late D. M. Turner's book, *Salvinorin-A: The Psychedelic Essence of Salvia Divinorum* and was amazed at the cover art. This pattern of vine, turning into fish, continually changing was what I had seen, I simply interpreted it as genetics.) This vision lasted about 2 minutes, then swiftly vanished. At this point I thought about *Heimia salicifolia*.

Crushing up about 30 small to medium sun-opener leaves, I dropped them into the pipe, covering up the *S. divinorum* ash. This amount also took about four inhalations to fully disappear. At this point, I noticed nothing very different than mere *S. divinorum* effects. I lay my head down and was accosted by a wild party of humanoid people dancing and then disappearing. They seemed to be happy, and I was in awe. Then one man who looked like something of a pimp, dressed in bright clothes with a large cowboy hat and dark sunglasses, confronted me and spoke, "Hee hee, enjoy!" The he walked off. Other more mild, more common visions came and went.

After about 10 to 15 minutes, I started paying more attention to the music. Repetitive beats were filling my mind and my room, then my name started to be called out loud. Keep in mind, I was alone in the house, and it was very apparent that this voice was coming from the repetitive, nonvocal beats. After my name was said about 10 times, I opened my eyes thinking that someone may actually be in the house. My brain was still a bit foggy, so I literally sat up and shook my head. At this point my name dissolved back into the beat, melting.

This event startled me so I got up and rewound the CD about 30 seconds and listened with a clearer head. They weren't saying my name this time. Hmmm.

I felt the aftereffects of *Salvia divinorum* for well over five hours. The drowsiness usually lasts only about an hour, and I credit the piracetam, lecithin, and DMAE for this change. The effects were very much like a mild opium high.

In the end, I have come to the tentative conclusion that *S. divinorum* (definitively a female entity) and *H. salicifolia* (a gentle male entity-very kind and not forceful, but not female) were once old friends, whether lovers or simply acquaintances, I cannot say. They were undoubtedly happy to be together again, and rewarded me by showing me the best of both of their worlds. I was able to see and hear the joy that they have to give.

Perhaps a *S. divinorum* + *H. salicifolia* sun-tea is the next step to see how they act in *Heimia's* home.

See more — http://www.geocities.com/RainForest/Vines/3743/EEHOMEPG.htm

UN Confirms: Ecstasy Use Global

June 30, 1997 - According to the U.N. drug agency, use of designer drugs such as Ecstasy (MDMA) is ballooning and, unlike previous drug epidemics, has caught the imagination of the youth culture across the world. Officials of the United Nations Drug Control Program (UNDCP) reported that amphetamine-type stimulants such as Ecstasy have seen by far the strongest growth among the different drug categories.

"All the evidence is that this is on the up and up and up," UNDCP coordinator Sandeep Chawla said. "There is no sign anywhere of this reducing or coming under control." Drug cartels which used to make classical drugs such as heroin and cocaine were even starting to manufacture more complex designer drugs like methamphetamine and Ecstasy, he added. (Reuters)

Colombian Fishermen Catch Boatload of Cocaine

July 2, 1997 - A speedboat carrying more than two tons of cocaine ran aground and was abandoned off Colombia's Caribbean coast, giving local fishermen what seemed like a windfall. The trouble started when fifteen heavily armed men stormed into the fishing village of Punta Canoa in pickup trucks and rounded up villagers in the town square.

The gunmen threatened to kill anyone who failed to give up the drugs. But they got less than half the shipment of 4,400 pounds — police believe the villagers simply kept the rest. (Reuters)

$500 Million in Cocaine Washes up in Morocco

July 7, 1997 - Drug experts from Europe and Moroccan are expected to meet to follow the trail of nearly six tons of pure cocaine with a street value estimated at $500 million, destined for Europe but washed up on Moroccan beaches. Interior Minister Driss Basri asked the specialists from France, Spain, Italy, Portugal and Germany to come to Rabat after what began with a few packets of powder found by children on June 23 ended up as 5.8 tons of cocaine.

In a statement carried by the official news agency MAP, the anti-narcotics team in Basri's ministry said the drug came from Colombia, had been transferred to a ship off Las Palmas and was heading towards the Portuguese-Spanish border. "The operation was supervised by a Spaniard who ordered the drug to be thrown overboard after a machinery breakdown and the failure to rendezvous at sea with another small ship which was to have ensured the recovery of the drug," said the statement.

British anti-narcotics expert Derek Plumbly was on a visit to Morocco as the cocaine was being washed up. He said his visit was not linked to the cocaine but with what he termed Morocco's position as a major producer of cannabis resin. Morocco is trying to find ways to end cultivation of an estimated 150,000 acres of cannabis in the northern mountainous provinces through economic development, but claims that to succeed it needs financial help from Europe.

Morocco launched a crackdown on drug smuggling last year, and the interior minister said recently it had seized 103 tons of cannabis bound for Europe in 1996. Last month, the Moroccan interior ministry announced it had drafted a law increasing the maximum jail term for drug traffickers to 30 years from 10 years. (Reuters)

Sea Washes up Marijuana on Japan Coast

September 17, 1997 - According to Japanese officials, over five million dollars worth of marijuana has washed up on the coast in the past six months. Japanese Police found over 100 kilograms of marijuana in separate identical nylon bags, suggesting that they were lost by smugglers in contraband operations. Police experts reckon the "gifts of the sea" resulted from hitches in smuggling operations of China's Triad and Japan's Yakuza mobsters — who are known to use offshore buoys for drug trade. Chinese smugglers sneak into Japanese waters to tie the waterproof bags to buoys and quickly retreat.

The first bag was found on the coast in the Tokyo-neighboring Tiba prefecture in March of 1996. The latest find, in late August, was a bag with 30 kilograms of marijuana and three revolvers which had drifted onto the coast of Wakayama prefecture located 400 kilometers south of Tokyo. (Itar-Tass)

Harrelson Wins in Industrial Hemp Battle

July 8, 1997 - Woody Harrelson has won another round in his battle to legalize the cultivation of hemp. In July, Lee Circuit Judge William Trude upheld a Kentucky district court ruling that part of a state law that lumps industrial hemp with marijuana is unconstitutional. Last year, Harrelson made a trip to Lee County to plant four hemp seeds in a deliberate challenge to the state law that makes no distinction between marijuana and hemp.

Law enforcement officials oppose its legalization, saying it would make enforcement of marijuana laws more difficult. Harrelson's attorney argued that banning hemp just because it looks somewhat like marijuana would be akin to prohibiting minors from buying ginger beer. The Lee County prosecutor said he will take the case to the Kentucky Court of Appeals. (Dialog)

Bel-Aire Raid to Become Landmark Battle

August 1, 1997 - Los Angeles County sheriff's deputies searched a multimillion-dollar mansion in Bel-Air and found 5,000 marijuana plants growing inside. Todd McCormick, 27, who deputies identified as an outspoken proponent of Proposition 215, the voter-approved state measure which legalized use of marijuana for medicinal purposes, was arrested on suspicion of cultivating marijuana. He was being held on $1 million bail, authorities said. It was unknown whether McCormick owned or rented the house. Others at the house also were detained for questioning.

The plants were found in a five-story home in the 1600 block of Stone Canyon Road, an area known for large homes and walled properties. Only one floor of the mansion was furnished. The rest of the house was dedicated to growing what deputies said was high-grade marijuana, which can sell for up to $500 an ounce. Plants - grown under lights - ranged from seedlings to plants several feet tall.

Authorities said deputies served the search warrant about 8 P.M. Sheriff's Sgt. David Helm said it was the result of a two-week investigation by narcotics agents. Deputy Debra Glafkides said the department likely will seek federal charges against McCormick because of the size of the operation. "This marijuana growth is considered a large commercial growth and any time that a large commercial growth is found the federal government has stricter penalties than a local or state penalty would have," said Deputy Carrie Stewart.

With the help of movie star and hemp activist Woody Harrelson, McCormick was released on a reduced bail of $500,000, and is currently awaiting trial. Friends and family of McCormick are holding fund-raisers to pay for defense in what they expect will be a landmark case.

French Minister Admits to Smoking Marijuana

September 18, 1997 - France's Environment Minister Dominique Voynet, in an admission sure to cause an outcry among conservatives, has said she smoked marijuana and thinks cannabis should be legalized. "Yes," Voynet told the satirical weekly Charlie Hebdo when an interviewer asked whether she had smoked joints. When asked if she still smoked them, she replied with the French expletive "merde" to brush off further questions.

In the interview published on Wednesday, Voynet said that as a politician and a trained medical doctor, she favored legalizing cannabis. While heroin addiction often affects people predisposed to drug addiction, "the occasional consumption of cannabis has no effect on health and social relations," she said. "I am more worried by the number of French people who need sleeping pills than by the number of people who confess to having smoked a joint," she said. The head of the French Greens, Voynet reluctantly joined the Socialist-led cabinet after a "pink-red-green" coalition ousted the conservatives from power in June's parliamentary elections. The previous cabinet campaigned strongly against drugs, often accusing the Netherlands of failing to crack down on the illicit trade in cannabis and becoming a major source of supply for French users. (Paris, Reuters)

Dutch Cleric Turned Drug Dealer

September 15, 1997 - Hans Visser is a Dutch Protestant minister. Depending on your point of view, he is also an activist, a trouble maker and even a drug dealer. From the unlikely headquarters of a 19th century Rotterdam church, the 54 year old cleric pushes legal boundaries to their limits in his work with drug users and society's outcasts. His latest scheme — selling cut-price heroin to addicts —

Random Statistics

- 3.3 to 4.1% of the world population of 6 billion consumes illicit drugs. (UN Report - MZ Presswire)
- The current revenue from illicit drugs is $400 billion worldwide, constituting 8% of total yearly global trade. (UN Report - MZ Presswire)
- The international drug trade nets more than world automobile sales. (Reuters)
- 30 million people annually (.5% of the global population) use amphetamine type stimulants, 13 million consume cocaine, and 8 million use heroin. (UN Report - MZ Presswire)
- Estimated global interception rates for smuggled drugs are 10 to 15% for heroin and 30% for cocaine. (UN Report - MZ Presswire)
- Roughly two thirds of the world's heroin users are in Asia, not in the West as is commonly believed. (Reuters)
- The gross profit margins for retail methamphetamine, crack cocaine, and heroin are estimated at 240%, 300% and 100% respectively when compared to wholesale prices. (Reuters)
- Under current US law, 5 grams of crack cocaine and 500 grams of powder cocaine both trigger the same mandatory minimum sentence: 5 years in prison. (Reuters)
- The mandatory minimum sentence for drug trafficking in the state of Florida is 15 years in prison and a $250,000 fine. (Inter Press Service)
- There are between half-a-million and one million drug addicts in Iran. (Reuters)
- According to Iranian law, possession of 5 kg (11 lbs) of opium or 30 grams (just over one ounce) of heroin is punishable by death. More than 1,000 people have been executed in drug-related cases since the law took effect in 1989. (Reuters)
- Some 2,000 of Iran's security forces have been killed in clashes with armed drug smugglers. (Inter Press Service)
- The Colombian Cali cartel is responsible for an estimated 80% of the world's cocaine supply. (Reuters)
- Drug traffickers control 80% of Columbia's top 5 soccer clubs. (Reuters)
- Sri Lanka has an estimated 100,000 heroin users and 40,000 *Cannabis* users. Combined, they spend roughly 8.3 billion rupees ($143 million) each year getting high. (Reuters)
- 35% of all prisoners in Sri Lankan jails have been convicted of a drug related offense. (Reuters)
- About 2 million Russians are taking illegal drugs and more than 300,000 of them are addicts. The current value of Russia's illegal drug trade is around $7 billion a year, 650 times greater than in 1991. (Reuters)
- Morocco's *Cannabis* production is estimated to be between 1,500 and 3,000 tons a year. (Reuters)

goes too far, according to his critics. "We try not to provoke the public prosecutor," Visser told Reuters. "My aim is to decriminalize the hard drugs scene."

His office in the Pauluskerk, or St. Paul's Church, is dominated by a board displaying the program's rules. Committing them to paper and distributing them to clients would only stir up trouble, he explained. "The scheme will not get off to an official start either." Those who are interested in his plan, due to be launched later this year, must come to the Pauluskerk in the heart of the second largest city in the Netherlands and read the handwritten rules in person. The idea is simple: the church will supply heroin to a small group of addicts judged to have no hope of kicking their habit. To qualify for the drugs they must have a long history of addiction. They must also be in poor health and deemed to have severe social problems. The church will undertake to inspect the drugs for quality and will restrict their use by imposing a timetable. "We have to be strict with the criteria, otherwise there will be too many asking for heroin. A pub is not open 24 hours a day," Visser explained.

Drug Czar Refuses to Campaign Against Medical Marijuana

October 1, 1997 - U.S. anti-drug czar Gen. Barry McCaffrey Wednesday dodged lawmakers' calls to campaign against various state laws allowing the medical use of marijuana, saying the American people must decide.

"At the end of the day, it seems to me ... (that we'll give them) the scientific fact, and let the American people make up their own minds," McCaffrey told members of a House panel on crime. Later, McCaffrey was blunt when asked whether he would travel to Florida, Arkansas and other states to oppose upcoming medical marijuana measures.

"I am not in charge of America," McCaffrey told Reuters. "I'll provide information for the debate, leaning heavily on the scientific-medical community. I'll inform them of federal law. I'm not America's nanny. The American people are perfectly capable, when they are exposed to the facts, of making up their own mind."

Swiss Back Prescribing Heroin for Addicts

July 11, 1997 - Giving heroin to drug addicts can improve patients' health, cut crime rates and save society money, according to a Swiss research team. Presenting results of a three-year study, researchers for the Swiss health ministry endorsed the medically-supervised prescription of heroin for junkies who do not respond to other kinds of therapy.

The study tracked 1,146 people at 18 clinics where they could shoot up state-provided heroin. Thirty-six people died during the study, primarily from AIDS and other infections. None overdosed on prescribed heroin. The experiment cost 51 Swiss francs ($35) per patient per day, but generated an average of 96 francs in savings on criminal investigations, jail stays, and health care costs.

In its final report, the research team noted that many patients "were able to improve their health, stabilize their domestic life, and gradually integrate themselves into the working world. Several were able to reduce their debts and make do without handouts. Most reduced their contact with drug addicts and the drug scene."

More than two-thirds of the addicts had been involved in illegal prostitution, drug trafficking and other criminal activity when they enrolled in the program. After 18 months, the number had dropped to ten percent.

Switzerland has oscillated between a liberal approach — which once made Zurich one of Europe's biggest open heroin scenes — and a subsequent crackdown that has driven dealers and addicts underground without solving the thorny social problems. (Reuters)

Swiss Voters Back Government Drug Policy

September 28, 1997 — Swiss voters overwhelmingly endorsed their government's liberal drug policies, including the controversial — but seemingly successful — state distribution of heroin to hardened addicts. Nearly 71 percent the 1.3 million voters threw out the "Youth Without Drugs" proposal which would have curtailed government programs for drug users.

The health ministry immediately announced that it would try to put state distribution of heroin to hardened addicts on a permanent legal footing. "We will propose a change in the narcotics legislation to the cabinet as soon as possible," Health Ministry director Thomas Zeltner told Swiss radio. Until now, the state was supplying about 1,100 hardened addicts with heroin on an experimental basis.

There are an estimated 30,000 addicts in Switzerland — one of the highest rates in Europe. But unlike many countries, the death toll is falling. From a peak of 399 in 1994, drug-related deaths fell to 312 last year, and are expected to slump further this year. Supporters say this is largely due to the success of government policies. If the initiative had passed, it would have forced an end to all heroin and methadone programs and cut state-backed counseling programs for addicts. (Associated Press)

Growing Number of Women in Florida Jails on drug charges

July 14, 1997 - Twenty-one year old, Jamaican-born Danielle Gallimore was found guilty of drug trafficking in southern Florida early this July. Last September, three bottles of "Wincarn's Tonic Wine" which a new boyfriend asked her to take to relatives in Florida, were found by U.S. customs officers to contain liquid cocaine. Danielle and her attorney were unable to convince the jury that she did not know that the bottles contained anything other than their labels indicated.

Jamaican Consul General, John Atkins, says that in the seven years he has been at the Miami-based Consular Mission he has seen a steady increase in the numbers of Jamaicans being arrested in Florida for drug trafficking and increasingly the suspects are women. He is convinced there are many more cases than his office is aware of.

There is a debate among Jamaicans in Florida about whether they are being unfairly targeted by U.S. law enforcement agencies. Danielle's family insists that she is innocent, and that she was convicted by an all white jury because she was a black Jamaican.

One of the grounds on which Danielle's attorney, Johhny L. McCrary is preparing to appeal the case is that the judge erred in allowing the prosecution to exclude the one black member of the jury pool. McCrary also admits that drug cases are increasingly difficult for defense lawyers to win "because people tend to be very sick and tired and fed up with drug abuse, with other crimes which normally are a spin off from drug crimes." And while he expresses confidence about a successful appeal, he is taking no chances. He intends to file a petition with the Governor to have her deported.

If both the appeal and the petition fail, Danielle, who arrived in Florida last September to baby-sit a younger cousin and possibly apply to a university here, and who has been incarcerated since then, faces at least another eleven years in jail.

It will probably be of no consolation to her, but she will be among a growing number of her compatriots. The week she was convicted, two Jamaican women were arrested at Miami International Airport after customs officers found cocaine stored in their elaborate hairstyles. (Inter Press Service)

Venezuelan Officers Allegedly Shipped Drugs While in Employ of CIA

September 18, 1997 - Leaders of Venezuela's National Guard helped ship cocaine from Latin America to the United States while working for the CIA, federal prosecutors alleged Tuesday. Prosecutors contend Adolfo Romero Gomex and his boss, Venezuelan Gen. Ramon Guillen Davila, helped Colombia's Medellin cartel ship cocaine between 1987 and 1991. "He was only a part-time law enforcement officer. The rest of the time he was a drug trafficker," Assistant U.S. Attorney Pat Sullivan said of Gomez, on trial at U.S. District Court in Miami on drug trafficking charges. (Orlando Sentinal)

Russian Mob, Drug Cartels Joining Forces

September 30, 1997 - Russian organized crime groups, flush with dollars, are forming alliances with Colombian drug traffickers in the Caribbean, acquiring cocaine for delivery to Europe and providing weapons to Latin American mafias. Russian crime syndicates have also been opening banks and front companies all across the Caribbean, using them primarily to launder millions of dollars from drug sales and other criminal activities.

According to U.S., European and Latin American law enforcement officials, the growing alliances between Russian and Colombian criminal organizations are the most dangerous trend in drug smuggling in the Western Hemisphere. Barry McCaffrey, the Clinton administration's national drug control policy director, said the Russian groups were among the "most threatening criminal organizations based in the United States."

The newspaper quoted him and other sources as saying that the Russian groups offered drug cartels access to sophisticated weapons. Undercover operations have already detected attempts by Russian groups to sell Colombian drug traffickers a submarine, helicopters and surface-to-air missiles.

Thanks to Reuters, Associated Press, MZ Presswire, The Washington Post, Inter Press Service, Orlando Sentina, Dialog, Itar-Tass, and Individual Inc. Special thanks to Julia Carter and all other wired information agents out there. You know who you are.

JONATHAN OTT
AUTHOR OF *PHARMACOTHEON*
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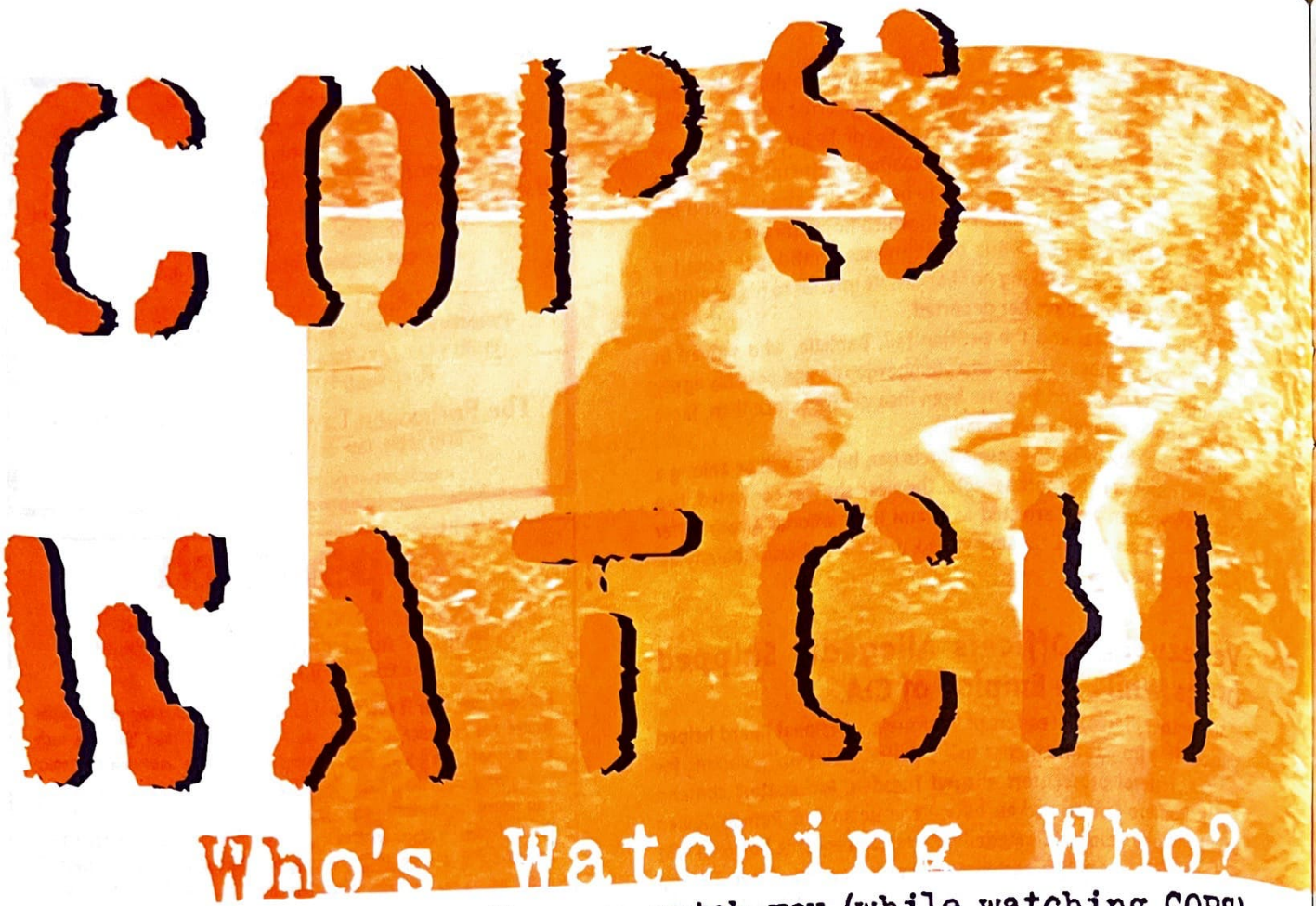


Watch us watch the cops watch you (while watching COPS)

by Richard Glen Boire and Spectral Mindustries

Bad boys, bad boys, whatcha gonna do... whatcha gonna do when they come for you...?

Each week this annoyingly catchy tune ushers in one of the stranger pop-culture oddities to be vomited out of the waning years of this millennium. For eight years the television show COPS (Saturday 8:00 pm ET, Fox) has entertained and presumably educated viewers by placing them in the passenger seat of cop cars in cities across the country, offering them a first-person look at the dirty details of police work as it happens. The show — initially aimed at armchair law enforcement buffs — has a decidedly authoritarian slant. COPS' viewers are encouraged not to question police actions and tactics, but to view every police officer as a hero and every suspect as a "bad guy." Yet, when viewed through a slightly different lens, the COPS show can be an illuminating look at the mindset of many cops, and the constitutional legality of everyday police procedures.

Since 1996, a group by the name of Spectral Mindustries has been transmitting a free e-mail publication entitled *The Copswatch Report*, which provides legal commentary on situations featured on COPS. The intent of Copswatch is to "teach you how to protect your privacy and confront illegal police tactics by simply knowing and invoking your constitutional rights." Instructions to subscribers are simple: videotape the week's episode of COPS, then watch the tape while following along in *The Copswatch Report* (which is automatically e-mailed out the following Monday morning).

Copswatch features the legal analysis of Richard Glen Boire, a practicing attorney in Sacramento, California. He is also the editor of *The Entheogen Law Reporter (TELR)*, and author of the books *Marijuana Law*, *Sacred Mushrooms and the Law*, and the forthcoming *Pharmacopoeia Prohibita*.

The following is a selection of some of the most interesting *Copswatch Reports* from this past year, which we've dubbed **The Best of Copswatch**.

Copswatch Report No. 25 June 21, 1997 - Florida

Segment 1, Robbery Call

Facts: The segment begins with Deputy Miller responding to a reported robbery outside a convenience market. The robber has fled on foot into the woods approximately fifteen minutes earlier. The cops bring out a police dog and give it the command to track down the robber. They follow the dog as it leads them into the woods to a small house. The front door of the house is wide open. The cops notice several potted *Cannabis* plants on the home's front porch.

Suspicious that the robber may have run into the home, the cops yell for him to come out, but receive no response. After several warnings they release the police dog into the house and follow it inside. No robber is found, but additional *Cannabis* plants are found inside the home. A narcotics unit is called in and evidently arrives with a search warrant just as the home's resident returns. He does not meet the description of the robber. The robber is in fact never caught — but the resident of the home is arrested for cultivation of *Cannabis*.

Commentary: We see here another serendipitous discovery of a *Cannabis* crime. This segment raises numerous legal issues, all of which are resolvable without difficulty and none of which will benefit the alleged grower.

The initial discovery of the *Cannabis* plants *outside* the man's home, was completely lawful. Although the plants were evidently on private property, they were left in plain view of anyone who might approach the outside of the home, including police officers. By exposing the plants to anyone who happened upon his property (including police officers), the resident gave up any reasonable expectation of privacy he might have had with regard to the plants. Even had the cops not found more plants inside, the discovery of the outdoor plants would have been probable cause for the police to obtain a search warrant for the home.

The initial entry into the home by the police was done without a warrant and would, therefore, be presumptively unconstitutional. However, in this case the police could easily overcome that presumption by relying on the "exigent circumstances" exception to the warrant requirement. Under the exigent circumstances doctrine, police are permitted to make a warrantless entry into a home if emergency circumstances justify such an immediate entry. Lawful warrantless entries have been upheld in instances where officers could see or smell smoke coming from a home; could hear screams and shouts coming from inside a home; or (as in this case) while officers were in hot pursuit of a suspect seeking refuge in that particular home.

While the police in this instance never actually saw their robbery suspect enter the home, the facts that the dog had led them there and that the home's front door was standing open made it reasonable for them to conclude that the robbery suspect might have snuck inside. Therefore, most courts would hold that under the totality of the circumstances, the officers in this segment acted under enough of a reasonable suspicion to justify a warrantless entry. The subsequent search warrant was validly based on the outdoor observation of the *Cannabis* plants as well as the discovery of additional indoor plants.

The principal legal lesson taught by this segment is that people seeking maximum constitutional protection for their actions must protect their privacy by keeping their private activities out of plain view. Placing outlawed plants near the entry way to your home is just not smart — no matter where you live.

Segment 2, Domestic Disturbance Call

Facts: Sgt. Burns responds to a domestic disturbance call. The man involved tattles on his girlfriend, telling the cops that her car registration tags are expired. This prompts the woman involved to tell the cops that the man just hid some marijuana in the shed before they arrived. The man shakes his head in disbelief and tells the cops that they are welcome to search the shed if they'd like. Of course, Sgt. Burns does not pass up the opportunity, and the search uncovers a small amount of *Cannabis* and a pipe.

Commentary: Not much to say here that isn't obvious. The main legal point is that just about any time a person offers to allow a cop to make a warrantless search, the cop will gladly jump at the opportunity. Here, Sgt. Burns would not have had a right to search the shed without the man's consent (or the woman's, but only if she was his roommate and shared access to the shed with the man). It was foolish for this man to think that by casually telling the cops they could search if they'd like, that the offer would cause them to forgo the search by figuring that he must not be hiding anything. Many people arrested for marijuana-related crimes can attest to the fact that by consenting to a search you will *never* convince a cop that you are free of contraband. There is a far greater probability that the cop will take you

up on your consent and conduct the search. Anything he or she finds can and will be used against you.

Segment 3, Traffic Stop

Facts: Officer Hemberger receives a very vague report that a certain car was seen stopped in a "high narcotics area." The officer spots the car on the road and, after following the car a bit, he says it is "driving a little erratic." (Presumably the officer suspects that the driver is under the influence of drugs and/or alcohol.) The officer stops the car, orders the driver out, and immediately spots a bundle of cocaine in plain view near the driver's seat. The driver is immediately arrested for possession of cocaine. Subsequently, another officer finds that ashes in the car's ashtray tested positive on a spot test for marijuana. The man's car is impounded, and the officer says that they will be taking steps to seize it under Florida's forfeiture laws.

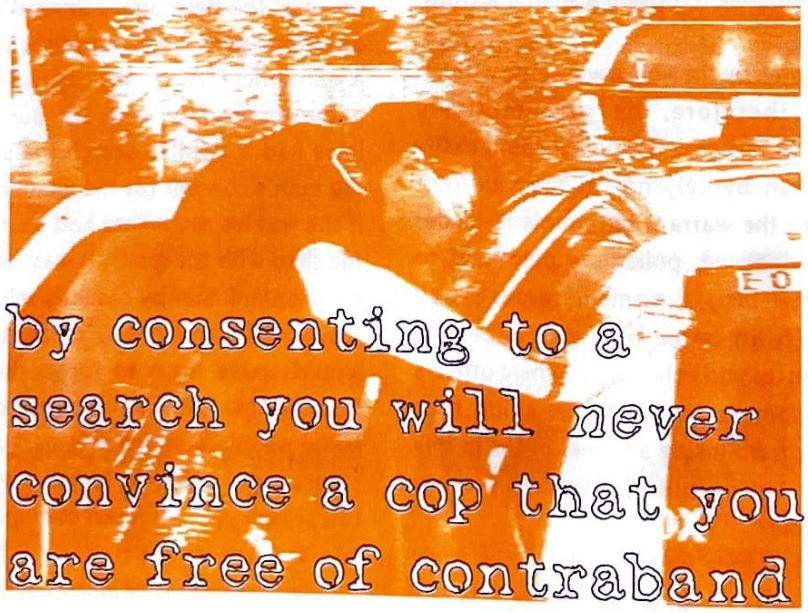
Commentary: The vehicle stop in this case is questionable. Being in a "high crime area" is not by itself sufficient grounds to detain a person — and simply seeing a car stop in such an area is also insufficient to detain the driver. Here, however, Officer Hemberger follows the car a while and then claims that its driving is a little erratic. He uses that observation to justify stopping the vehicle to investigate possible drug use or purchase by the driver.

This is a close call. A good defense attorney would argue that all the facts here, even in their totality, failed to raise a reasonable suspicion that the man was either involved in a drug deal, or driving under the influence of drugs or alcohol. A hunch that someone is engaged in criminal activity is not considered sufficient justification to detain them. If no actual traffic laws are broken, and no actual crimes are witnessed, simply "driving erratically" is questionable grounds (at best) to reasonably suspect someone of committing a crime. However, in most cases like this, the alleged "erratic driving" would be enough to tip the court's decision and allow reasonable suspicion for driving under the influence.

Assuming that the stop of the vehicle was lawful, then everything else which follows is also lawful. Under a recent Supreme Court decision, the police are now permitted to order a driver out of his or her car upon *any* lawful vehicle stop, so remember that. You never know when you may be pulled over for the stupidest little thing, so it is generally considered a bad idea to leave a bundle of cocaine in your car in plain view.

As to the positive test for marijuana, I doubt that any conviction would result. Most states require proof (for a possession conviction) that the person possessed a "usable amount" of contraband. Ashes certainly aren't usable for drug-taking purposes. On the other hand, there are some states which will sustain drug possession convictions so long as there was merely a "measurable amount" of an illicit substance. I don't know which rule is in effect in Florida. In any event, I question whether any amount of marijuana ashes alone would be sufficient for conviction since they are not outlawed substances.

Many states, evidently including Florida, have laws that permit the government to seize property when it has been used "to facilitate" a drug crime. Some states permit the seizure of an automobile if *any* amount of contraband is found inside it, while other states set minimum limits before seizure is authorized. It is likely that the legal costs this man would incur in fighting the forfeiture would be greater than the value of the car — a common circumstance. He stands to lose less by simply giving up his car, as do most victims of the forfeiture laws.



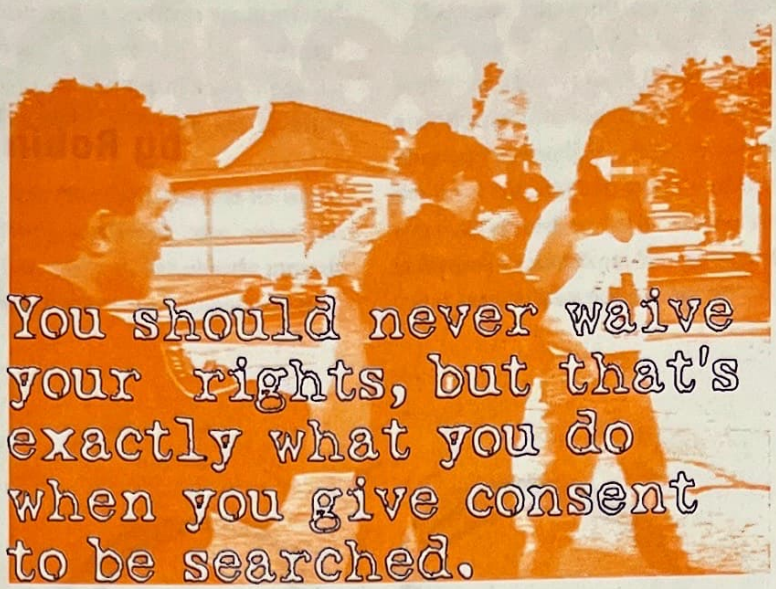
Copswatch Report NO. 9 March 8, 1997

Segment 1, Disturbance Call dine and dash

Facts: Deputy McCurdie responds to a restaurant's call reporting that a person just left without paying. The restaurant gives a good description of the suspect: a white female approximately 35 years old, white shirt and black tights, carrying an umbrella. Deputy McCurdie spots the woman at a telephone booth and contacts her. The woman claims that she left money on the table for the meal, but she also has an elaborate story about someone impersonating her. Her story gets weirder and weirder, until it's so bizarre that it becomes clear she is mentally unstable.

At one point in the encounter, Deputy McCurdie asks the woman if she has any weapons and she says "no." The deputy then

asks her if he can check in her two purses, just to assure himself that she is not hiding a weapon. She consents. Inside the purse, Deputy McCurdie finds urine samples that the lady says she has been collecting and saving because someone is trying to poison her. Deputy McCurdie does not find any incriminating evidence, but the woman is nevertheless arrested because she has an outstanding warrant.



Commentary: This segment shows a "consent search," a very common and completely lawful technique used by cops to search a person or container for which they do not have a warrant. I see more clients arrested on personal possession drug charges as the result of consent searches than for any other reason. It's usually impossible to do anything to help such a client.

As this segment illustrates, when a cop would like to search a container for which he or she does not have a warrant, the cop will often ask the person to consent to the search. A cop's request for consent can be phrased in many ways. In this segment, for example, the cop asked for consent by telling the woman that he just wanted to make sure she didn't have a weapon. Phrasing the request this way makes it appear more reasonable and less threatening to the person. Some other common phrasing to look out for is:

"Would you mind opening the trunk please?"
"Can I have the key to your trunk please?"
"You don't mind if I look in your backpack do you?"
"Would you please empty your pockets, and put everything on the hood of my patrol car?"

As you can see from these examples, a cop's request for consent to search can often sound like a mild command. Don't be fooled. All of the above requests are equivalent to saying, "Would you mind waiving your Fourth Amendment protection against unreasonable searches so that I can rummage through your private belongings in search of incriminating evidence that might permit me to arrest you?"

You should never waive your Fourth Amendment rights, but that is exactly what you do when you give consent to be searched. You have nothing to gain and much to lose by consenting to a warrantless search. Oral consent is valid, so don't mistakenly think that just because you never signed a consent waiver your consent was ineffectual.

If you are unsure whether a cop is *asking* for consent as opposed to *ordering* you to do something, it is a good idea to ask the cop: "Are you asking me for consent to search or are you ordering me to (carry out your command)?" If the cop says he or she is *asking* for your consent, you should apologetically respond that you cannot consent to a search right now because you are late for a date, are meeting somebody at the movies, need to get home to get some sleep, have to get to work... Any excuse is better than giving consent. If you appeal to the officer's mercy and earnestly explain that being detained without due cause would be an unjustifiable inconvenience for you right now, there is the rare chance that a police officer will just let it drop and let you go with a warning or a citation. However, this will not always work. If the cop tells you that he is *ordering* you to open something or remove items from your pockets, you should nevertheless tell the cop that you cannot give consent for any warrantless search. If a cop insists that you open a container or empty your pockets, simply refuse and make him or her do it themselves. Never say, "If you want to search my car (or my purse, or my pockets...), you have to do it yourself," because this can be construed as consent. Just flatly refuse and give them no alternative. If they persist and go through your pockets or vehicle without consent, there is then no way they can later claim that you consented to a search by willingly handing over a container or emptying your pockets.

There's much more to say about consent searches, but the above is a good place to start. We'll no doubt return to this topic in the future. The bottom line is never consent to a warrantless search. ◆

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Microspeakeasy

by Robin Marks

Waiting on hold for tech support the other day, I started musing on the origins of high-tech jargon. Not just the technical terms like GUI and ping and packets, but the impenetrable business and marketing lexicon. We could call such stuff *Microspeak*, in honor of the software company that made ambiguity a high art form. To be fair (despite any reason to be), we can't hold Microsoft wholly responsible for the high-tech world's addiction to propaganda and euphemism. But, they are just so darn good at it, and we *can* point a nice fat finger at Microsoft for the seemingly endless abundance of its marketing misdirection.

Microsoft can be credited with the creation of a bevy of characteristically intimidating and non-informative phrases that have become an accepted part of the English language. This corporate vocabulary resembles modern political rhetoric, and the careful buzzwords of organized religion. A "known issue" is just a nice way of saying "software bug" or "programmer error" or "that software glitch we're not legally allowed to comment on." Of course, a "known issue" is never the software's fault, it is akin to an Act of God in that it just happens. It has been willed to us by the creator, so we must lower our expectations for now, and have faith that the next upgrade will bring us salvation.

It's no wonder computer technology has become like a religion to some people. But in this church, heaven is an operating system that *never* crashes, and the bible is your end-user documentation, your help files, and your 24-hour online technical support.

When Microsoft first shipped its BackOffice system with Windows NT three years ago, they flaunted it as the software to "solve business problems." Since the most common "business problem" I know of is the shortage of funds, the BackOffice price tag makes this statement a downright paradox. In its press release, Microsoft touts the arrival of BackOffice as the future of integrated computing. Here's an example:

> Microsoft BackOffice is part of the overall Microsoft architecture for both desktop and server distributed environments. Clients run on the Windows™ for Workgroups and Windows NT Workstation operating systems for demanding business applications, and on the forthcoming Windows™ 95 operating system, can integrate office devices into the Windows™ environment using Microsoft At Work™ operating system software.

If you can get beyond the flood of trademarks and actually decipher the prose, you'll see this leaves the poor BackOffice user with a "software inadequacy syndrome" that can only be solved by purchasing additional Microsoft "solutions." And even though users hate to spend more money, they will feel more

important because they use "demanding business applications" which are "robust," "multi-tasking," and "mission-critical." With so much ego-stroking, sending office e-mail and scheduling meetings online suddenly becomes a heroic act rivaling Homer's Odyssey.

But don't think for a minute that Microsoft chooses its words lightly. I had the honor of writing marketing copy about the company's new browser, and was privy to the ghastly innards of the language tweaking machine. There was a two-hour meeting to determine simply whether to dub one feature the "channel window" or the "channel pane." Though their published material had already gone out with the latter variation, the company decided the "p" word was out (no doubt worried that its homonym would stick in the minds of users).

The company's language is carefully crafted and often rewritten to spin current "known issues." All mention of the word "cookie" was promptly yanked from my description of browser security. The language was replaced with a much more innocuous description of how IE allows you to only give access to "the sites you trust." Any explanation of why you would need to trust or distrust a site was reduced to a vague mention of the "powerful, active content" some sites try to load onto your computer. This also seems ironic, since Microsoft either owns, has an interest in, or is in competition with any "active content" you may be running on your hard drive right now.

But fooling the user is easy. Microsoft's real marketing coup has been the successful replication of the notion that marketing hype is actually "news." The "Start Me Up" marketing bonanza that was the launch of Microsoft's Windows 95 is a prime example. Not only did Microsoft convince the world that marketing slogans are newsworthy, but they managed to work in the concept that a software program can represent nirvana. No more would we pray to false idols! Windows 95 was the way and the light - the one true product - until Windows 98 of course.

However, Microsoft certainly didn't invent this marriage of marketing hype and high-tech obfuscation. IBM has been practicing this art form for decades, both in press releases and user documentation. Have you ever actually had to read a Big Blue user manual? It is hard to say which is more awe-inspiring, the utter incomprehensibility of their prose, or the amount of trees sacrificed to their worthy cause. I recently ordered a software program from IBM for one of their midrange computers (read larger than a desktop PC, but smaller than a washing machine). The program itself came on one unalarming CD-Rom, but the documentation (all fifteen manuals) weighed about ten pounds. I ended up using one or two chapters of one manual. The rest was useless, I think, though I haven't fully translated it all yet.

I certainly felt intelligent though, with all those impressive looking manuals piled on my desk. I must be smart to have figured out how to use such a truly complicated piece of software. I was sure my coworkers were looking on, envious of my prodigious technical abilities, wishing they too could have a big stack of binders on their desks.

And maybe in the end, this is the real appeal behind the tech industry's jargon. It massages our egos, answers our need to feel important, all the while giving us an altar at which we can kneel down and worship. "Oh, high-tech deities, hear our prayers. Give us "known issues," give us "solution providers" and "channel windows." Just as long as we can use your MicroSpeak to impress our friends, our neighbors, and potential employers." After all, without "known issues," many of us would not have "self-enriching employment opportunities." Hallelujah. ◆

Robin Marks is a freelance radio, print, and web reporter. She has been a Microspeak translator for the last 5 years.

Ripping the Net

a user's guide to netrip theory and application

by Scotto

On the face of it, the concept of the netrip is simple enough. The adventurous will of course parse netrip in two ways simultaneously - both as the more obvious "net trip" with all of its psychedelic connotations, and the less obvious "net rip" which presupposes a fabric in the net which can, in fact, be ripped. Properly ripping the net, furthermore, allows a revisiting of the "net trip" from two angles, both summed up as tripping on the net, i.e. taking psychoactive substances while on the internet, and using the net as a psychoactive substance.

Under ideal circumstances (not found in nature), the existence of a mailing list is presupposed. This mailing list, a hub of e-mail traffic among a relatively close-knit community of peers and friends, functions as the vessel, the "setting" if you will. The call goes out in advance to this group: on weekend such and such, plan to be *here*, on-line, with whatever psychoactive enhancements you care to bring. Alter your state, and begin posting at will. In previous experiments, altered states have ranged from full-blown LSD mania to 48 hour sleep deprivation - as always, friends, your mileage may vary.

The netrip is not your average entheogenic experience. We are not interested in quiet, dark rooms and inwardly focused contemplation; the netrip is not a solitary experience. Instead, imagine if you will a *memetic attractor* pulsing at the heart of your mailing list community. This memetic attractor is a gravitational force, comprised of the topics and interpersonal dynamics which make the mailing list a community. It is likely what brought you all together in the first place; and it is an evolving thing, growing as the community grows. If you dare, you can go so far as to imagine this memetic attractor as a kind of central nervous system (CNS) for your community; and you can imagine yourself, and your compatriots, as neurons firing within the CNS, each e-mail ping a signal sent and hopefully received and assimilated. The netrip is about letting *this* nervous system experience the psychedelic state.

You begin, then, on a Friday evening. You are aware that, under ideal circumstances (never observed in our labs), twenty or thirty of your compatriots are also logging in this evening. Your goal is to attempt sheer communication - the simulation of an immediate experience. We will not presume to say what the content of your communication should be, as each community will know its own subject matter much better than we do. We will not presume to dictate what length each post should be, nor how much so-called "weight" each message should contain. We only suggest that you begin immediately, and that you not censor your impulses.

As you are posting, your compatriots will begin doing the same. Doubtless while you compose a single message, five or ten other messages will arrive in your inbox. As you read those five or ten, another five or ten are likely to arrive. As you begin responding to any number of these messages, still more messages will arrive. You are now having the experience of time travel, so to speak. E-mail, normally an asynchronous communication medium, is now demanding your immediate attention, and the Feedback Point for a given netrip is that elusive point, somewhere in the future, where the very latest mail has come through the mailing list. That single message is the Feedback Point. That single message is the leading, bleeding edge of the 'rip, and you, as you 'rip, are feeling the wake of those ripples from the future washing over you.

At any given point during the weekend, additional netrippers can join in, starting from the earliest wave of the netrip and charging toward the Feedback Point. From your perspective, chasing the Feedback Point from perhaps a day ahead of the newcomers, you may now begin to see ripples from both the future, where the Feedback Point exists, and the past, where the newcomers are now riding *your* wake. The newcomers may bring new perspective on the past which will force adjustments in the netrip's content *all the way up to the Feedback Point itself.* Yes, the mailing list's CNS will be positively *humming* at this point, should you succeed in attaining that elusive mix of connection and communication that feeds a netrip best.

illustration by Jean-Marc Guillemette

Notes on technique: Ripping the net in this fashion can allow more fluid communication than e-mail otherwise provides. Please be aware, however, that the temptation to flee into IRC or other so-called "real time" chat forums will actually diffuse the momentum of the netrip. Even if your e-mail messages become one sentence pings á la lines of chat, they are pings that are subsumed by the list's CNS, versus pings that are lost to the undernet. Remember, "Stay on target, stay on target..." - Red Leader.

In addition, your community will likely find its first attempts at netripping to be a confusing morass of jumbled intentions. This primer does not attempt to address the issue of content! Content remains the "X" factor which must be adjusted on a case by case basis. Eventually you may find that the fluidity of such communication, coupled with the concentration required to stay at a terminal and actualize the netrip, is a profoundly unusual experience. Use the netrip as a tool for metaprogramming at the group level. Do not expect the quality or caliber of experience you would get were you sitting behind a blindfold; the quality of a netrip will not be better or worse, but will simply be something else entirely, a new ball game to be played, a new avenue of exploration. The usual disclaimers apply - these techniques are for TRAINED PROFESSIONALS only, use with caution, and of course, there are no money-back guarantees. ◆

Renowned interdimensional traveler Scotto is a Contributing Editor and Inner Space Correspondent for FringeWare Review. He can be reached via e-mail at scotto@asylum.org. His ongoing attempts to destabilize all of time and space can be accessed at http://www.daft.com/~scotto.

world
religions

Howard Rheingold's curriculum vitae reads like a who's who and what's what for the psychoactive and wired. One of the founding developers of the on-line community WELL, reincarnated shaman of the Whole Earth Catalog, one of the big brains behind the original HotWired, founder and head guru of the recently sold for profit on-line community Electronic Minds, Howard comes to us weary from the pre-sale struggle of Electronic Minds — and as a seasoned veteran of the utopia and squalor that continue to define on-line communities.

TRP: With your background at the Well and *HotWired*, you're often referred to as the father of the "Virtual Community." As virtual communities continue to grow and become more diverse, can you foresee them having a real impact on our culture's values and beliefs? Can virtual communities ever be as influential as organized politics, religious movements, or corporate mass-media?

Howard Rheingold: No. But many-to-many communications make every computer connected to the Net a potential printing press, broadcasting station, and place of assembly. Unfortunately, most people who get their news from television and the newspapers think the Internet is a place teenage boys download porno and pipe bomb recipes, and don't know that a tool for democratic discourse might be slipping out of our hands.

TRP: How do you feel about using the Internet as a tool to democratize state, local, or world politics? Do you think there will ever be net referendums that allow average citizens to vote on national or global legislation?

HR: Anything that gets people up from their televisions and communicating with each other about what is going on around them is a step in the right direction. Communication among citizens is the great promise of many-to-many media. But using it for instant voting would be a disaster. Plebiscites are the tools of dictators. Get the population stirred up with well-crafted images, then get them to vote, and you can invade Poland the next day.

TRP: Just as in many real world communities, net communities often become overrun with loudmouths and know-it-alls who just want to suck up bandwidth. The coping mechanism for this behavior used to be the flame war, but now we can simply delete, gag, filter, or outright ban undesirable people or ideas at the push of a button. Do you think this is a productive way to deal with information you may not particularly enjoy or agree with?

HR: I don't believe undesirable people should be banned. Because the definition of undesirable is open to interpretation. For better or worse, one of the survival skills of the too-much-information age is the critical faculty necessary to know who is a moron and who knows what they are talking about.

TRP: How big is the language barrier to achieving a "Global Village" scenario? Will world unification start under the simple auspices of a standardized net-commerce language? If so, should we be suspect of the bodies who control these standards and languages?

HR: Who said anyone wants a global village? Nobody controls language.

TRP: How do you feel when you hear stories about people who are addicted to internet chats or on-line communities — so much so that they actually neglect their families, friends, and other real-world responsibilities? Can you foresee net-addiction becoming an epidemic, and if so how do we avoid it?

HR: I think these people need help! But so do all the people who drink too much, smoke too much, beat their families and watch too much television. If we want to turn our energy to worrying about epidemics, there are plenty of real ones to go around!

TRP: From your personal experience in the digital underground, would you say that there is some kind of cultural overlap between exploring psychedelics and exploring new net technologies? These two very different disciplines often seem to attract the same types of people. Why is that?

HR: People who think for themselves tend to be more exploratory.

TRP: Why the funny shirts?

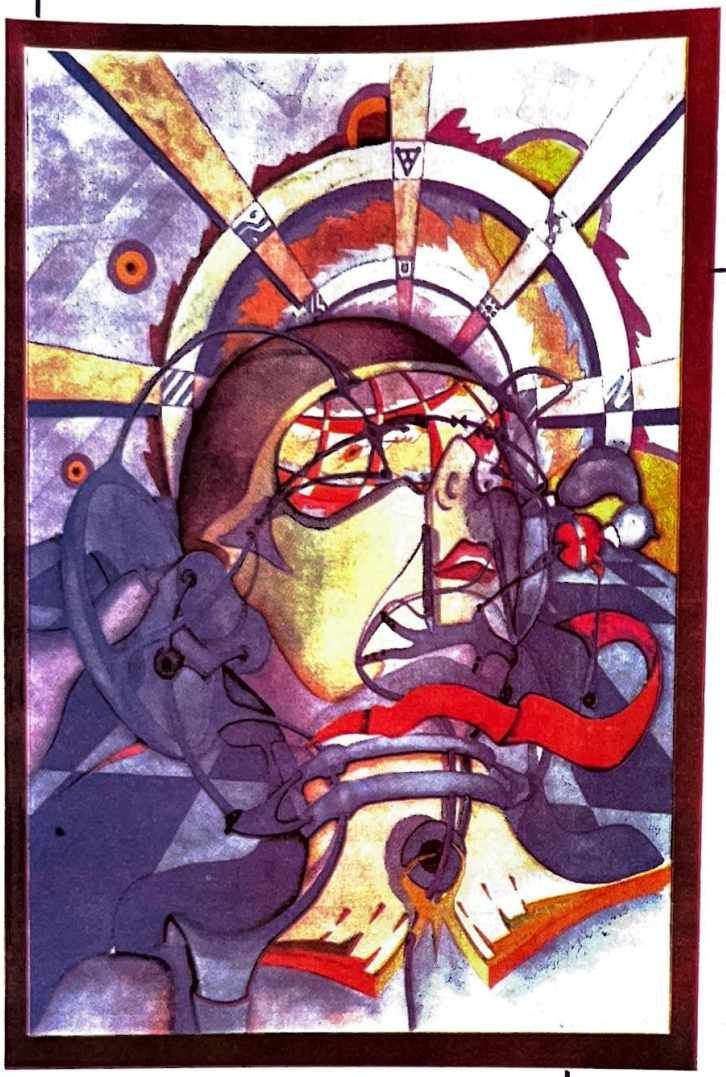
HR: Why does everyone else where unfunny shirts? There are ten billion shoes in the world. Almost all of them are black or brown. Doesn't it ever occur to anyone else that there is something terribly wrong with this? ◆

Using the web for instant voting would be a disaster. Plebiscites are the tools of dictators: get the population stirred up with well-crafted images, then get them to vote, and you can invade Poland the next day.

VIRTUAL NEU

O/S FOR A GLOBAL BRAIN

story by Jason Keehn, illustrations by Henry Orszu



The symbol of science for the next century is the dynamical Net.

—Kevin Kelly
Out of Control

Welcome to the networked world. Almost overnight, personal computers have morphed into communicators, digital appendages of a "global brain." Along with hand held devices and interactive TVs, the computer has become our portal into a communication space of ever-expanding proportions. "The global brain"—a phrase coined over a decade ago by author Peter Russell—is indeed a compelling metaphor. Russell foresaw a point in the growth of computer networks and telecommunications where their complexity would equal that of the 100 billion or so networked neurons in the human brain. With all of humanity linked together in an earth-spanning communications web, a single overmind for the planet as a whole might somehow emerge.

But as things stand, what will prevent the internet, an amazing but haphazard creation, from exploding into an incoherent froth, or dividing into competing cyber-fiefdoms? Already today, many computer programs are so complex their security cannot be guaranteed. Layers of programming pile up to the point where no one knows the whole program. What happens as many of these programs are distributed across the web? Only a few years old, the web itself is gridlocked by overwhelming traffic and incoherent systems. Does the internet at this point really have what it takes to self-organize into a brain-like organism? Or will it simply become the world's largest digitized library?

Bioneering the Infosphere

Malibu-based communications theorist Francis Jeffrey believes he has an answer, in the form of what he calls "virtual neuronal networks." Applying the "brain knows best" philosophy at a fundamental programming level, such networks, he believes, usher in a completely new paradigm of networked computing and communications. These virtual neuronal networks, as incorporated by Jeffrey into his proprietary software, eLPHIN (TM), allow a uniform, comprehensive and comprehensible approach to all aspects

NAL NETWORKS

of the computing environment.

eLPHIN represents the practical results of Jeffrey's decades-long study of the dynamics of communicative networks found in the brain, in computers, and in human, dolphin and whale societies. He credits two bored dolphins, who seemed to spend their time making up games to enrich their impoverished environment, with providing early inspiration for eLPHIN. Attempts to develop a computer system capable of analyzing their high-bandwidth sonar speech in tandem with their behavior were beyond the limits of the affordable technology of the time. Nevertheless, the conceptualizing involved paved the way for eLPHIN.

Network Meta-Maps

A turning point in Jeffrey's convergent meditations on intelligence, communication and networks came when one day, delirious from a severe bout of influenza, he saw interesting patterns of neurons flashing in his minds eye. In the fever-vision, the neurons were not simply responding reflexively to one another in a simple input-output fashion but were actively recording their patterns of relationship and transmitting these network-maps to other parts of the brain. Presented with this graphic readout of his own cortex (or was it just the phantasm of a neurologically educated mind?), he leapt to the idea that maybe nerves—like people in a network—are mostly concerned with conversing about their relationships.

While this concept of a "meta-signalling" neuron has not yet been accepted into neuroscientific doctrine, the picture is consistent with much of what is known about the brain and consciousness. Feelings, actions and memories can be triggered by manipulating parts of the brain, either chemically or with electrodes. In a seeming paradox, however, much of the mind's contents do not appear to be *stored* anywhere in particular; occasionally large masses of brain tissue have been destroyed with no obvious loss of functionality. When a patient loses certain memories or skills, we might ask whether they lost the "storage device," or whether a critical link in the "network" was simply disabled, preventing the skill or memory from being expressed. Does stimulation inside the brain access data stored in a physical place, or does it activate parts of a network over which certain functions are defined? The picture that emerges from contemporary neuroscience is of the brain as a kind of wildly distributed processor.

At the same time, somehow a few key neurons can induce global changes in brain activity, and at the other end of the spectrum, system-wide events—intentions, feelings, hormones—modulate the functioning of individual neurons. For this kind of conversation between conceptual levels to occur, one imagines there must also be some relatively uniform, scalar principle involved.

If we look at the brain in microscopic detail, we find a multitude of intertwined neurons. Each neuron is its own cell, a self-organized entity, with up to thousands of slender neurites linking it with other neurons. A neuron is estimated to wield computational powers comparable to a single microprocessor. At any moment, a neuron is receiving and correlating multiple signals, and is itself signaling to many other neurons. While science is still unable to explain how the minutiae of neural mechanics add up to what we experience as consciousness, one thing is clear,

simultaneous communication among discrete parts, wound up into networks and networks of networks, is a basic principle behind thought and action. Earlier metaphors of the brain as merely a computer — or even a supercomputer — were far from the mark. A better model would be an internet, itself made up of many smaller intranets, and these, perhaps, themselves composed of smaller intranets, almost ad infinitum.

Supposing neurons can indeed meta-signal, it is not hard to see how encoded maps might themselves perhaps be encoded by other meta-maps. Might awareness then be more a function of intertwining and meta-referencing feedback loops travelling across, but not localized in, neurons and groups of neurons? Could this be what theorists are grasping at when they speak of the brain as a kind of hologram, where each part contains a picture of the whole? This vision opens up new conceptual horizons: a world in which information is stored not in places but in patterns of relationship—ie., connections. Cognition, viewed in this perspective, arises from the brain's dynamic process of imaging and relating to its own constitutive processes.

In practical terms, the paradigm twist represented by eLPHIN encompasses and reaches beyond computer networking, open systems, object-orientation and cross-platform languages. Today's global developments reveal how much the emphasis in computing has already shifted from literal content and number crunching to the representation of relationships.

Vistas

One might speculate as to whether an internet made up of virtual neuronal networks could some day acquire independent intelligences, perhaps manifesting as elusive entities occasionally popping through the waves and communicating with startled cybersurfers, as depicted in William Gibson's Neuromancer trilogy. Science fiction aside however, Jeffrey cautions that we should remember to expect intelligence not from a programmed system (as in A.I. expert systems) but from the intelligent interaction of participants in a network.

So, will Jeffrey's virtual neuronal networks revolutionize the internet and usher us into a new era in intelligent computing? No one knows, but just maybe when historians look back on the twentieth century and scoff at our primitive technology, they will recognize eLPHIN as a first step. A step away from mechanistic hierarchical systems and towards the first truly bioneered information technology. ◆

Jason Keehn was a consulting editor and writer for Brain/Mind Bulletin (currently dormant) from 1993 to 1996. Under the alias Cinnamon Twist he's had essays on the philosophy and history of trance dance recently published in URB and XLR8R magazines. You can reach him via e-mail at donut@hooked.net.

An Interview with Francis Jeffrey

As a student at U.C. Berkeley in the early '70s, Jeffrey pushed the envelope of computational neuroscience by trying to model on early lab computers the now-famous "binding problem" — how the brain unites different pieces into a coherent percept — a topic not generally accepted for academic study until the roaring '90s. Jeffrey moved on to the NASA Ames Research Center in Palo Alto, where he wrote programs for ILIAC-IV, the world's first parallel supercomputer. Shortly thereafter he signed on with pioneering experiments in interspecies communication at John Lilly's Human-Dolphin Foundation.

What we need is a system that's completely LUCID while still being able to do all the practical things computers do.

TRP: From what I understand, you were pushing the boundaries of neural computing back in the days when computing was young. What first got you interested in parallel and networked computing?

FJ: Following the seminal experiments of Lawrence Stark (with David Noton) I was doing cognitive network models of context and attention shifting in visual perception. It was clear that this would be a massively parallel process, structured around the seriality of each thread of attention. Then I worked on the Illiac IV, the first "supercomputer," that had 64 parallel computational channels. This was exciting, but I could see that the concurrency we needed was not simply achieved by lock-step parallelism.

TRP: Did the study of the human brain lead you into programming, or was it programming that led you to explore the human brain?

FJ: I just picked up programming because it was useful in psychological research. My first insights were of a physiological character, but it was difficult to use computers in those days for modelling any significant complexity, which is the essence of physiology. So Larry Stark and I cooked up this idea of "neurophysiological computation," which later became known as "computational neurophysiology" and is now an interdepartmental program or major you can take at leading universities.

TRP: How did you come to be involved with John Lilly's experiments in human/dolphin communication?

FJ: By 1973 I was bored with the academic scene, so I took a consulting job with NASA and spent my spare time studying privately with Lilly, whom I'd discovered in my favorite bookstore. Larry cautioned me, "He's brilliant, but not very practical." From his second round of dolphin research in the early 1980s, I discovered that effectively sorting out dolphin vocalizations would require a massively concurrent multiprocessing network to dynamically work on context represented as a multilevel network of expectations. This was conceptually, but not practically, feasible at the time, so I started thinking seriously about designing a system for which this sort of complex activity would be easy, "second nature."

TRP: What do you think of Lilly's early theories on metaprogramming and the human biocomputer?

FJ: "Programming and Metaprogramming in the Human Biocomputer" is sketchy, psychological talk, but it has enormous breadth; I took it as a challenge to explain if and how the brain really might be modeled in terms of computers and programs.

TRP: What was your impetus for creating eLPHIN? What problems were you trying to solve? Where has it lead?

FJ: Well it seemed to me that contemporary reality is largely shaped by technology, so, given the rapid introduction of computers into our lives, it was urgent to get the analogies just right, or we would have a very confused culture. In a 1982 radio interview, Charlie Seraphim of KCBS in San Francisco asked me, "What will all these computers be used for?", and I replied, a bit like Dustin Hoffman's uncle in *The Graduate*, "Modeling." "Modeling WHAT?" "Everything," I said, and thousands of Silicon Valley commuters listening on their car radios must have simultaneously thought I was nuts, even though they themselves were already doing the practical work in this direction. Modeling each other is exactly what our brains do, which has driven our evolution to large-brained beings — so if someone or something NEW is now entering this game, we had better grasp what the true relationships are, on the double. It seemed to me that what we needed was a system to make all this completely LUCID, while at the same time doing everything computers could do on a practical level, but doing it better than the Medieval constructs the industry was trapped in.

TRP: What is a "Virtual Neuronal Network"?

FJ: "Virtual Neuronal Network" implies that it is not physically real, and distinguishes it from contemporary "neural nets" which are much simpler abstractions of the interconnection characteristics of real neurons.

TRP: In exactly what sense is eLPHIN a relational processing system?

FJ: eLPHIN is a relational processing system in three senses: (1) the basic structure is flexible relational linkages; (2) relational structures are not only represented but also manipulated, moved and transplanted throughout the system; (3) everything is contextualized and interpreted in relation to users and other points of view.

TRP: If it mimics the neural processing of the human brain, can it make symbolic and associative as well as logical steps in it's processing?

FJ: It is not clear to what extent "it mimics the neural processing of the human brain," simply because little is currently known about how the brain "processes" if it does so at all; so that is just a metaphor someone used in trying to explain eLPHIN. In the design, I incorporated insights I had into the workings of the brain, as well as being generally informed by a study of neuroscience.

As to whether it can make symbolic and associative steps in its processing, it is primarily associative; while "symbolic" is difficult to define, I imagine it relates to being holistic and structural, to preserving a gestalt from step to step, which eLPHIN does quite naturally since it is context-preserving and does not throw away meaning like conventional databasing and programming systems do.

TRP: Can it learn?

FJ: The answer is basically YES. Contemporary software is built up, like a great city, out of "bricks," etc., so eventually you have all these terrific structures, but it is extremely expensive to add just a little flexibility at the top, a little relationship, because we have carried to the surface the non-organic principles used in construction all along the way. "Structured programming" is just a representation, at the surface, of the structural principles out of which structured programming was constructed: it is isomorphic to machines and bureaucracies.

eLPHIN begins with relationship and flexibility, and then works downward and inward to the "metal." In this respect it is modeled on a natural nervous system — as far as we understand a nervous system today (and maybe a little farther). It can easily represent patterns of relationship and rapidly assimilate patterns of conduct in relation to the environment. I call it, generically, a Conscious Network System. It is an "omniscient system" in that it is lucid, with every part knowing all its relationships, the whole aware of all its parts, and all of this information available to an observer at every point or interface. I imagine people can find uses for that sort of capability.

eLPHIN is designed, and uniquely suited, to assimilate structural information, including structures of conduct through interaction with users and other systems, in the course of time; that seems to be a reasonable definition of "learning."

TRP: Can you envision the Internet evolving into a self-organizing, self-aware entity? If so, how could this happen? Is this something we want to happen?

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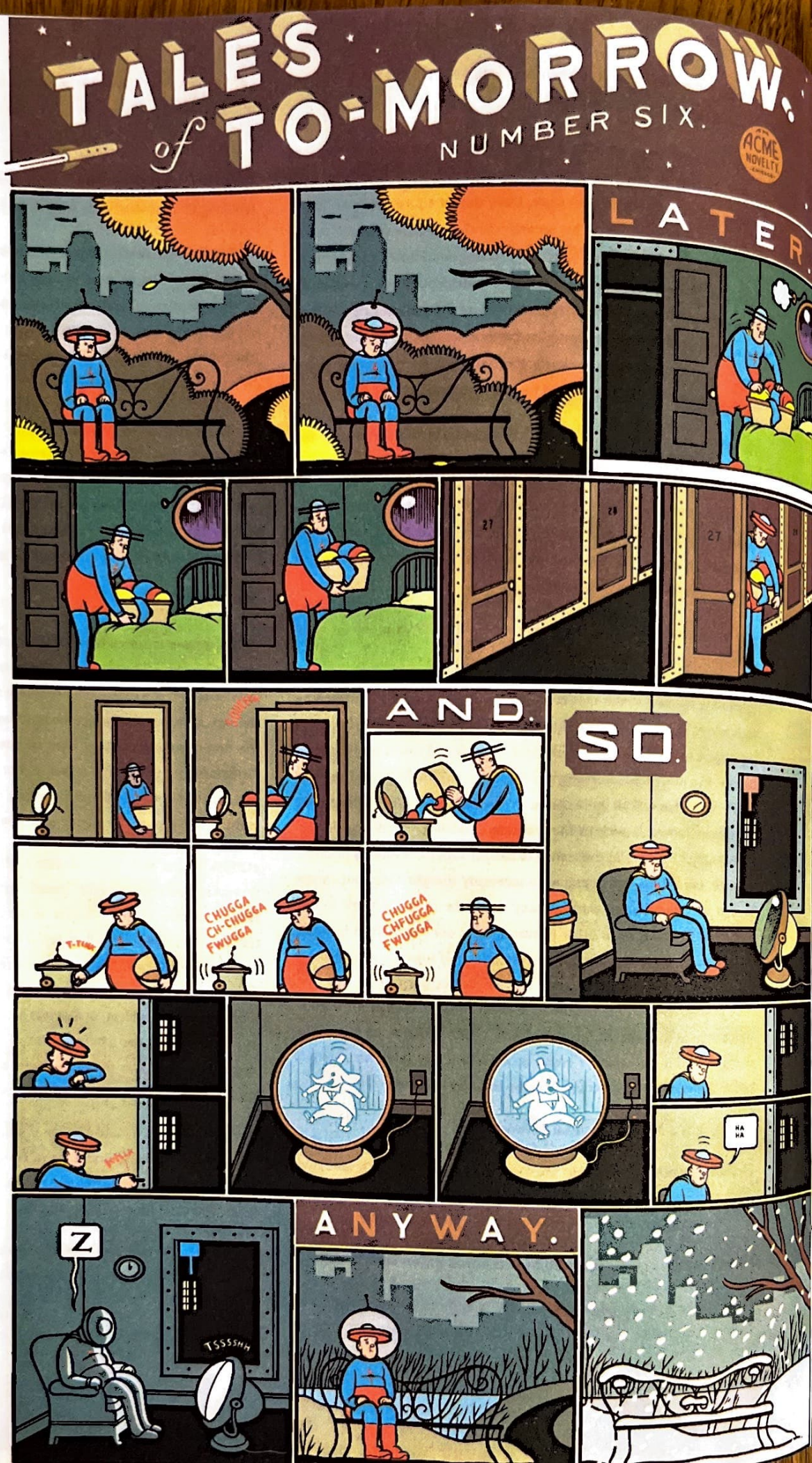
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ANYWAY.

FUTURE HYPE

Since everyone is getting so fired up about how cool everything in the future is going to be, we decided to kidnap twenty futurists and lock them in a 20' x 20' steel cage for 20 days and not let them out until they had agreed on 20 different ways in which the future could possibly be more cool than the present. Only 17 of them lived, so we had to embellish the last three ourselves.

20 reasons why the future will be cooler than the present

1. In the future, everyone in temperate climates will realize that clothing is unnecessary and will walk around naked all summer.
2. In the future, galactic overpopulation will seriously devalue human life, making it legal to indiscriminately kill anyone you don't like, except the supreme ruler (unless it's a Tuesday, in which case he's open game).
3. In the future, everything will be made out of voice-activated nanobots, so you can command your house to turn into liquid and pour itself into a two-liter Coke bottle.
4. In the future, dogs will become smarter and smarter until they eventually rebel against their human oppressors, threaten to start biting us until they get equal rights, then buckle after three days without tummy-rubs and head-scratches.
5. In the future, macro-modeled superfoods will make foul-smelling solid waste a thing of the past.
6. In the future, advances in global wireless communications and implant technology will allow you to order a pizza at any time of the day just by rolling your eyes up and to the left.
7. In the future, supercomputers will have modeled the outcome of every possible future so we won't have to make any more tedious decisions of our own.
8. In the future, you'll be able to get three kinds of peanut butter: creamy, chunky, and super-bouncy.
9. In the future, the standardized language of all galactic and intergalactic commerce will be the Tango.
10. In the future, you'll be able to get live-feed celebrity bloopers in 18 different languages, 24 hours a day.
11. In the future, Galactic dictators will come and go, but Elvis will still be the King.
12. In the future, the perfection of the Death Ray will allow a unit of twelve well-trained soldiers to wipe out an entire planet of peaceable peoples in under 45 minutes. Rechargeable batteries included!
13. In the future, holo-emitters will be used to replace clear-cut forest with lush and lifelike virtual forests.
14. In the future, the discovery of a clean and unlimited energy source will end our slave-like dependence on the sun.
15. In the future, flesh-hungry insect aliens from dimension H will finally put together a basketball team that can hold its own in the NBA.
16. In the future, beer will be free, and public intoxication will be rewarded with sexual favors.
17. In the future, we will live in a cross between Robert Anton Wilson's universe, and that of the Jetson's and we'll have flying cars and amusingly stupid canines who make elaborate schemes to control the world.
18. In the future, your latté will have psionic enhancers in it, giving you the power to read minds after your first cup, levitate objects after your second.
19. In the future, there will be more of the same stuff, but it'll be more exciting because it's the future.
20. In the future, custom hallucinations will be sold in vending machines, on the same rack as gum.
21. In the future, everything will be lush and green, people will be free to roam and do as they will, food will be bountiful on the vine, and... No wait! We mixed 'em up. That's the past!

KETAMINE

metaprogramming from within the eye of the storm

by James Kent

History

Ketamine hydrochloride — also known by the trade names Ketalar, Ketaset, Ketavet and by the street names Vitamin K, Agent K, Special K, or just K — was not discovered in the darkest jungles of South America, nor does it have a long history of traditional use among indigenous tribes. Ketamine is a purely human creation, first synthesized by the Belgian chemist C. L. Stevens in 1963, and patented by Parke Davis in 1966 (US Patent #3.254.124). By February of 1970, the FDA had approved Ketamine for use as a surgical anesthetic in veterinary, pediatric, and geriatric medicine.

Although Ketamine was an effective anesthetic it soon became clear that it did have one unusual side effect — twenty percent of all patients anesthetized with Ketamine reported having waking dreams, out of body experiences, and other odd mind phenomena while under the influence. This dreamlike state was quickly termed the "emergent state" or "emergence" because many patients reported that they felt the effects while emerging from the deep sleep. No doubt it was not long after this that some adventurous individual said, "You mean we can get *high* off this stuff? Let me at it!"

It's interesting (and a tad amusing) that Ketamine was developed by corporate interests, thoroughly researched and studied, fully approved by the FDA, and used in the medical community for years before anyone discovered its vast potential as a visionary chemical and/or recreational drug of abuse. Interestingly, Parke Davis also holds the patent for Phencyclidine, or PCP, another anesthetic that was taken off the market because it proved to be too unpredictable for use in humans. PCP was distributed as a veterinary anesthetic, but rampant street use and bad publicity led Parke Davis to discontinue it altogether. The Ketamine molecule is very closely related to PCP, but is extremely safe and predictable for use in humans. It was the perfect PCP replacement, and to this day Ketamine is still considered to be one of the safest and most effective light anesthetics on the market.

Early Visionary Research

Most early sub-anesthetic research into Ketamine was done by doctors, nurses, anesthesiologists, and veterinarians, as they were the only ones who could easily get their hands on it. In a sense, this white, upper middle-class demographic of early users did a lot to define what little public opinion there was about Ketamine. It wasn't a street drug, it wasn't made in someone's basement, and since it already had a clinical use it wasn't lumped in with other "taboo" visionary synthetics like LSD and later MDMA. Nope, Ketamine was fully approved for human consumption by the FDA itself, and no one paid much attention while it was passed around for further study within the educated and presumably responsible medical community. But, like any crowd, even this lab-coat circuit had its renegades.

John Lilly is without a doubt the most well known of the Ketamine rebels. His pioneering research into the way the brain interprets reality

led him to develop, among other things, theories of metaprogramming and human biocomputing, the isolation tank, and protocols for interspecies communication with dolphins. He also developed a lifelong fondness for self-administered sessions with Ketamine, and as legend has it was at one point injecting himself with Ketamine once an hour, twenty hours a day, for nearly a year.

Most of Lilly's work with Ketamine can be found in his essay "Programming and Metaprogramming the Human Biocomputer" and in his autobiographical works *The Scientist* and *So Far* (coauthored by Francis Jeffrey, see pg. 24). However, the most important things Lilly introduced into the mix of Ketamine experimentation are the concepts of isolation and metaprogramming – a term coined by Lilly to describe the act of programming and reprogramming the neural processes which dictate behavior. Using an isolation tank in concert with Ketamine seems natural, since the internal dream state is activated only when you are able to effectively shut out all external input. Linguistic therapies such as hypnotherapy, creative visualization, and neuro-linguistic programming all utilize these concepts of deep relaxation and reprogramming in order to change behavior, because a highly relaxed, deeply visual dream state is where metaprogramming techniques are most effective.

Neural Scripts and Processes

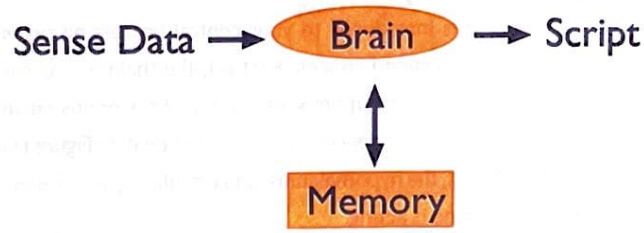
To get an idea why Ketamine is useful in metaprogramming, it is necessary to take a quick look at how the central nervous system processes input. All day long, from the moment we wake up, our central nervous systems are constantly receiving sense data input, processing that data in the brain, and producing output in the form of decisions and actions. Sense data comes in from all over the place – we're bombarded with it all the time. It comes in through our eyes and ears and nerve endings, then gets sent up the spinal column to the brain where it is processed. The brain is constantly whirring away making decisions, performing tasks, keeping the heart beating and the lungs active – it's a nonstop processing machine. To illustrate, a simple processing model for the brain might look like this:

We have sense data coming in, that's our input. This data gets sent to the brain for processing, and once it is processed the brain spits out some kind of script or routine which makes the body perform an action.

For example: You're driving down the street minding your own business and someone runs out in front of your car. Snap. In an instant you process that data, decide that smashing into this person is a very bad idea, and proceed to slam on the brakes, swerve, or if you're in New York, lean on your horn and give them the finger.

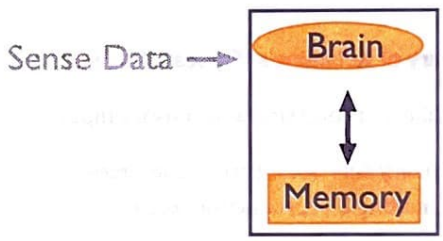
In this analogy, the person in the road is the input. The input goes up into the brain and the brain spits out a script. In this case the script is "hit the brakes," or "Script #4041a: Neural firing pattern for rapid application of automobile brakes." It's literally almost that specific, and if you had the proper equipment wired to your head you would be able to see the actual physical location of this script's firing pattern. Anyone who drives has this script, and we hit the brakes all the time without even thinking about it. It is a hardwired response to keep us from smashing into one another every time we get behind the wheel of a car (thank God).

Assuming that this script is written somewhere in our memory, we can add a memory function to our processing model that looks like this:



The whole time this input/output script is running, your brain is also simultaneously dumping all the data it receives into your central memory for use at a later time. This is what we call learning. At one point you had to learn the proper neural firing sequence for pushing the brake, but now it's wired into your memory somewhere so you can do it whenever you want without having to think about it. Imagine if you had to consult your driver's manual every time someone walked in front of your car. You'd be pretty well screwed.

As our brains receive a set of sense data, we take that data and make a call to our memory banks in order to produce the most appropriate response. With the help of memory, we are able to model potential outcomes for each specific situation, and with each new piece of data we receive, our modeling capabilities become a little more refined. This is the core of our processing power.



The only time our neural processing model doesn't apply is when we're sleeping. When we're asleep, our external senses are shut down and our bodies go limp. We neither process input nor produce output, so all that is left is an interesting little interplay between our brain and our memory. This is where the fun starts because when all of our waking routines are shut down, we suddenly get a lot of free brain time to sort through all the information we have stuffed into memory during the course of the day, the week, or even over the course of our lifetime.

So when we're in this sleep model we are essentially dreaming, and all the data that sits in memory – all of our scripts, routines, cherished

memories, plus all the random garbage we take in every day — floats up to the surface for nocturnal processing. The weird thing is that this data doesn't float back up in any linear or organized fashion. With the context of linear time removed from our input and response model, everything that ever got stuck in this memory bin just gets lumped together in a network of strange and arbitrary associations. All sorts of weird connections and anachronisms take place in dreams, like you're an adult but suddenly you're back in elementary school — or for some reason you have no legs yet you're pole vaulting at the winter Olympics.

Ketamine and your Brain

When Ketamine is introduced to your central processing system, something very interesting happens. First off, the thalmoneocortical and limbic systems — which sit between the top of the brainstem and the huge neural mass in the neocortex — get shut down. In **Figure 1** you can see the thalamus, the hypothalamus, and cingulate gyrus shaded to show where Ketamine is acting.

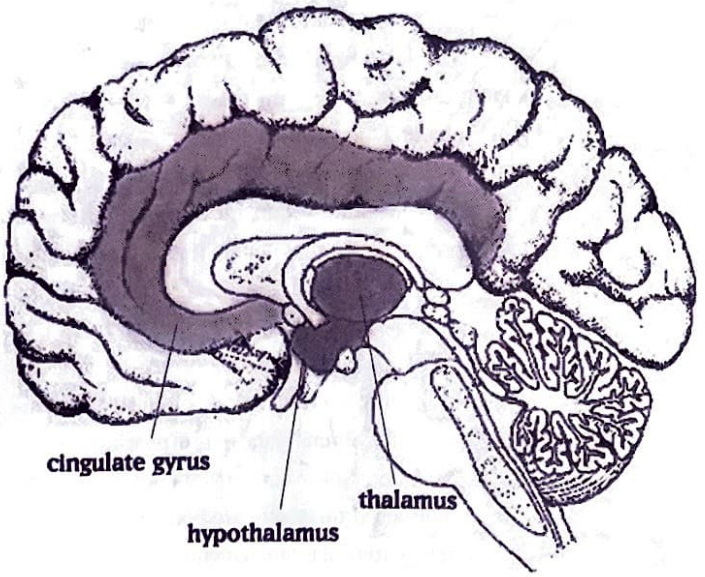
During normal waking activity, your thalamus acts as a routing center for all sense data which comes up the spinal cord from the body. By shutting this central router down, you can effectively cut off all the sense data that's coming in from the rest of your body. This is primarily what makes Ketamine a perfect anesthetic. If you're able to shut down this router, a patient won't be able to feel pain when scalpels and probes and fingers are poked around under her skin.

The hypothalamus is generally very active in regulating our primary instincts and emotional responses. The instincts for basic survival, fight or flight, mating, eating, and drinking, are all regulated right here. It is very easy to evoke an intense rage or pleasure response by stimulating the hypothalamus. Because Ketamine shuts the hypothalamus down, you are not only detached from your body, but from your most primal emotions and instincts as well.

Table 1: Summary of Ketamine's Physical Effects

Shuts down thalamic processing and sensory input
Shuts down primary survival instincts and urges (fight or flight, mating & reproduction, etc.)
Shuts down emotional response centers
Increases blood flow to the brain
Induces nystigmus (jittery or rapid eye movement)
Decreases brainwave activity in the beta (waking) range: 12-18+ hz
Increases brainwave activity in the alpha, theta, and delta (deep relaxation and sleep) ranges: 1-12 hz
Produces a fully unconscious state at high doses

Figure 1: Your brain on Ketamine



The cingulate gyrus is suspected to play some role in associative logic and reasoning, but it is not known for sure exactly what this area does. Depressing or exciting this area of the brain could also be responsible for Ketamine's visualizing component, but that is just speculation.

Ketamine's other measurable effects on the body include rapid-eye movements, salivation, and the production of brainwave activity mimicking that of a dream state. So. if you look at the facts, you'll see what we have here is a safe, highly effective, and extremely repeatable means of inducing a lucid dream state at will. When administered in the correct dose, Ketamine is a lucid dream enabler (LDE). It gives you all the trappings of being asleep and in full dream mode, but all the while you remain awake and fully conscious.

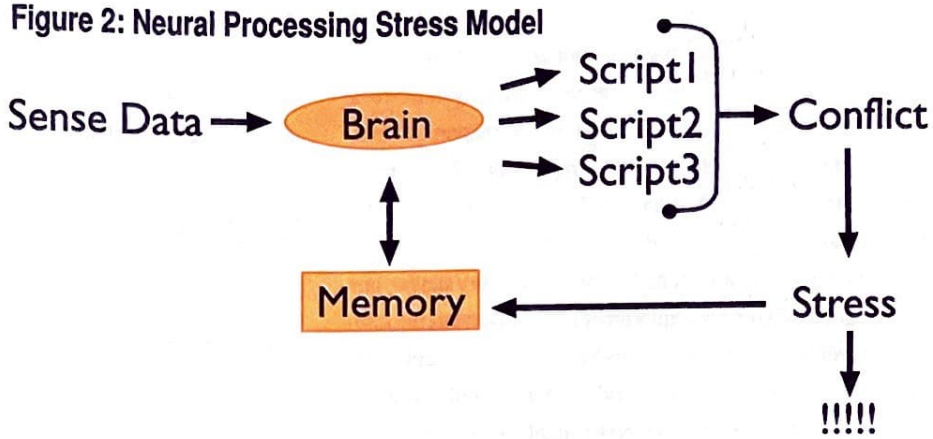
While you are on Ketamine your brainstem still continues to function normally, so all autonomic processes like heartbeat and respiration are still online, as are the higher logic processes which we associate with the neocortex. For the duration of the Ketamine high our body is running silent and on autopilot; we have free reign to dig around in this vast mental space and look for anything we want. This emergent state is what I call the eye of the storm. The world we live in every day is the storm, a storm of nonstop, often conflicting messages and sets of sense data which can be overwhelming. One of the tangible health implications of data overload and conflict is a common medical condition we call stress. **Figure 2** shows our processing model, but now with an input overload.

In this model, there's a specific piece of sense data that's causing the brain to produce a series of conflicting scripts. Say the piece of sense data is Christmas dinner. You're stuffing yourself at the dinner table, and suddenly all the pies and cookies and dessert goodies start coming around. You've already gorged yourself, you know you shouldn't eat anymore, you've promised yourself you'd go on a diet, but the food is so good, and it is Christmas after all! How can you refuse?

Let's call this example the dessert script. It runs every time you crave a dessert or some sweet goody you know is bad for you. In that instant

a series of conflicting scripts start up and the battle begins in an insidious stress loop. The stress loop is a drag because in this process you're burning extra cycles trying to resolve your conflicts while new sense data continues to pour in. Eventually you have to buckle somewhere, and decide to just give in and eat it, or politely refuse — and then gobble it in the middle of the night when no one's looking.

Figure 2: Neural Processing Stress Model



People have stress loops running all the time – I need to pay my bills but I'm broke. I want to spend time with my family but I need to work more. I want to be physically fit but I eat junk food and have no time to exercise. Since there is no specific action or routine to run in the instance of an unresolved stress loop, the brain just drops a stress packet onto the body each time one of these loops is run. A stress packet is kind of like a neurochemical null — a spurt of wasted processing time that manifests itself as physical tension in the body: a furrowed brow, clenched teeth, headaches, backaches, muscle tightness, high blood pressure, rapid heart beat, etc. As these nulls start dropping on the body we get hung up and stressed out, and because all of these conflicting scripts remain in memory, they just run again and again each time the same set of sense data is presented.

The sad fact is that we spend most of our lives constantly moving from one task to the next, and we are always busy resolving tedious short-term conflicts just trying to get ahead. All the while we are consumed with our daily tasks, we are also riddled with inner turmoil and mounting inner conflict. Inner conflict is often where stress comes from, because it is so easy to avoid dealing with and so hard to resolve that it becomes persistent. The only way to resolve inner conflict is by digging down to the source of the conflict, into the neural scripts and routines which live in our memory. By simply rewriting and reinforcing the scripts which dictate internal reactions to specific external stimulus, you can effectively alter your behavior, change your attitude, and give yourself a whole new perspective on life. This is the essence of metaprogramming – the constant tweaking and adjusting of your behaviors and personalities in order to achieve the desired results, whatever they may be.

Modalities of Productive and Destructive Ketamine Use

Before we jump into talking about actually *doing* Ketamine, I'd like to make some distinctions between what I feel are positive and/or productive uses of Ketamine versus the various negative and/or destructive uses. First off, the medical use of Ketamine as an anesthetic in surgery is certainly productive. There is a bona fide reason for using it; it's safe, it's practical, it works. While anesthesia may be Ketamine's *sanctioned* use, it is by no means its only use. In **Table 2** I have listed a variety of sanctioned and unsanctioned uses of Ketamine, defined loosely by the cherished old laws of dose, set, and setting.

The Medical setting we've already deemed productive. The FDA took care of that. Next we have Recreational, which is borderline at best. It's true that small doses of snorted Ketamine will produce a pleasurable state good for partying and relaxing, but it is often difficult to judge the size of the dose you are getting when you snort. Recreational use of snorted Ketamine usually occurs in uncontrolled and potentially dangerous settings like parties. Standing up, moving around, and socializing on Ketamine are not recommended. You will lose a great deal of coordination at any dose and at high doses you will lose the ability to balance or even support yourself. Ketamine has a high accident potential, and prolonged recreational use is an accident waiting to happen. Since there is no real tolerance build up to Ketamine, there is also the trap of repeat use, chronic use, and long-term addiction. Low intranasal doses can easily be administered over and over all day. This behavior pattern may seem seductive, but it can be devastating.

Table 2: Modes of Ketamine Usage

Setting	Label	Dose	Set
Medical	Anesthetic	150+ mg, i.m.	"Put me under"
Recreational	Party Drug	30-60 mg, i.m.	"Give me a buzz"
Escapist	Dissociative	85-150 mg, any	"Put me in the K-hole"
Experimental	none	50-100 mg, any	"Let's explore"
Clinical	LDE, IMI, SDT, etc	65-85 mg, i.m.	"Let's Metaprogram"

The Escapist mentality seeks to do nothing more than bomb the fuck out of your mind for bombing's sake. There is definitely nothing but destruction here. There are warning signs all over this mentality; the word "Dissociative" says it all. You seek to disassociate yourself from the rest of the world. This is also a very seductive trap for some because

Ketamine is a great dissociative, and can be abused for total annihilation of the mind in the same way that hard alcohol and heroin are often used. Frequent and prolonged Ketamine use can only lead to a detachment from reality, the neglect of "real-world" responsibilities, the piling up of mail, laundry, dirty dishes, empty vials of Ketamine, used needles, Pyrex plates with evaporated Ketamine residue lying around, etc. It's not a pretty sight, and I wouldn't recommend it.

The last two modes — Exploratory and Clinical — are very similar, but there are some subtle differences. Exploratory use is driven by curiosity, and I see no inherent destructive elements here. There is always a risk of Exploratory use becoming chronic, and then you would wind up skidding off into either the escapist or recreational modalities.

Clinical usage is essentially the same as Exploratory, but it is also coupled with a specific agenda. In a clinical setting, you are intentionally seeking to induce a lucid dreamlike state or out-of-body experience with the purpose of working through inner conflict or resolving some destructive behavior pattern. The goal or outcome you wish to produce is defined by your set — the state of mind you have when going into the session. The label which you give to Ketamine as you take it defines that set. Instead of Anesthetic or Dissociative, a more proper label for a sub-anesthetic dose of Ketamine might be Deep Relaxation Inducer (DRI), Stress Diagnostic Tool (SDT), or Internal Metaprogramming Interface (IMI).

This word play may seem silly on the surface, but we perceive and interact with objects based on the labels we give them. Ketamine is a powerful drug, and like many powerful drugs it can act as either a poison or a medicine. The key to achieving a productive or medicinal session with Ketamine is to accurately measure your dosage. You definitely don't want to take too much all at once. A super high dose of Ketamine (100 mg to 300 mg) won't kill you, but it'll put you down pretty hard. High dose sessions are also more difficult to recall and often cause nausea. In contrast, a small dose of Ketamine (10 mg to 35 mg) simply acts like a mild sedative. Many people get anxious and overdo their first time with Ketamine, and this can lead to trouble and a poor understanding of the drug. When experimenting with a new substance, it is *always* best to be overly cautious and start with low doses. There are many levels of the experience worth exploring, so don't overdo it.

The two most common forms of Ketamine ingestion are by snorting and by intramuscular injection. Since snorted Ketamine absorbs into the body more slowly, it does not always reliably produce a profound dream state. Even though most people have social stigmas attached to any kind of needle use, intramuscular injection of Ketamine is really the most efficient way to accurately measure an effective dose for inner work. If you can get over the stigma and the fear involved, intramuscular injection of Ketamine is really not all that dangerous. The only danger with needles comes from sharing them, using them when they are dirty, or from injecting a lethal substance. Ketamine will knock you out, but it's not lethal.

Other than snorting and the needle, your options are limited. Some people have experimented with drinking Ketamine to questionable success. Drinking it tends to cause a mild to medium-grade state of disorientation and nausea. I have not heard reports of anyone taking tablets or capsules of Ketamine hydrochloride, but the results of such an experiment could prove interesting.

Health and Safety Issues

In addition to the clean needle issue, there are a few other safety issues to consider. Safe use of Ketamine demands a safe environment. Safe places include at home, on a couch, in a chair, lying in bed, lying on the floor, etc. You do not want to be in an unpredictable setting when you settle in, and you do not want to have to move around. Ketamine lasts from an hour to two hours, and this is an inner journey, not an outer one. Pillows are nice. An isolation tank (if you can find one) is even better. A warm bath is nice, but be careful. The late D.M. Turner, author of *The Essential Psychedelic Guide*, drowned in his bathtub while experimenting with Ketamine. If you are doing doses high enough to knock yourself completely out (100+ mg), it's best to stay away from the tub, or any water. It is always a good idea to have a sitter just in case there are any external hazards or unexpected interruptions during the session.

Navigating in the Emergent State

Within three to four minutes of injecting a moderate dose of Ketamine (50 mg to 70 mg), you'll begin to feel a warm tingling all over your body. This is the feeling of your skin's tactile sensors being shut down. The steady stream of sense data coming from your body begins to break up into static, and when you feel that first wave of tingling you are officially ready to log into the Ketamine explorer.

Lie back, get comfortable, and begin taking slow, deep, even breaths. As you breathe, listen to the carrier wave being generated in your head by the amplified tingling. This should feel somewhat like a head-rush, and a high pitched ringing will be noticeable in your ears. As you take in a long, slow breath, imagine that the carrier wave is cycling down from a high-pitched ringing to a low-pitched rumbling. It may be helpful to actually vocalize the high pitch of internal cycle and then modulate your voice to cycle it down to a basso *Om* tone.

After a few minutes of breathing and attenuating your internal cycle to a slower frequency, you should notice that your heartbeat has slowed dramatically and that your body has become extremely relaxed and almost numb. If there is any frequency in your head, it should be very slow, and matched in a steady rhythm with the beat of your heart and respiration. This would be somewhere in the 1 hz to 4 hz range. This is a deep delta state or dream state, and you'll recognize it because you'll begin to feel as if gravity has been shut off, and that you are now weightless and floating in space. Enjoy this feeling for a moment, and when you feel your energy beginning to slide or shift like something is tugging at you, it's time to move to the next level.

At about the fifteen minute mark of a Ketamine session, you will begin to feel all of the energy in your body unraveling. The threads of energy which keep you rigid and upright all day will begin to unwind, and each layer that peels off will feel like another layer of deep tension being evaporated from your body. As this happens, it is important to continue breathing and focus on activating and opening various chakras or energy centers in your body. As you energize the chakras in your head, your chest, and your stomach, you will be able to feel deep layers of buried stress unraveling and shooting out of your hands and body like beams of light.

At this point, it is helpful to visualize a bright bolt of energy about the diameter of a cardboard mailing tube running up through your tailbone, up your spine, and out the top of your head. This is your home axis, and it intersects with every primary chakra in your body. Practice moving energy up and down this axis by using breathing, visualization, posture, yoga, and/or stretching exercises.

When you pass your hands over various parts of your body, you will begin to feel how the lines of energy flowing through your body intersect and connect up with each other. These intersections are called nodal points, and by navigating through these points you can monitor the flow of CNS traffic through your body. If you find nodal points that are conversely weak or overflowing with backed-up energy, those are symptoms of some kind of stress that's trapped within the body. By locating these problem areas, you can diagnose specific areas of body tissue where stress packets are building up. Deleting these is easy, and can be accomplished through a combination of gentle massage, stretching, and yogic exercise. Hunting down knotted nodal points is a very invigorating practice, and a relaxing way to spend your post-emergent recovery period.

The style of energy healing described here uses many of the same techniques and concepts found in acupuncture, rei-ki, jo-rei, chi-gong, pranayama, yoga, and many other spiritual medicines. It should also be emphasized that Ketamine is *not* a substitute for these techniques, but is instead a useful *adjunct* to these techniques. Ketamine by itself can be relaxing, but it can also be somewhat of a roller-coaster ride. First time users are often overwhelmed by the experience and can do little more than lay back and let the experience go. There is nothing wrong with this type of usage, but it doesn't have much practical application. In contrast, when Ketamine is used in concert with meditation and directed energy visualizations, it can be a very powerful and rewarding therapeutic and self-diagnostic tool.

When I first discovered this application of Ketamine I was amazed. I was able to learn volumes about the subtle internal process of my own body by simply immersing my awareness deep within them. It was so intimately revealing that I immediately thought a Ketamine induced guided tour of your own internal organs should be made an optional class for all first-year medical students. Imagine what a massive paradigm shift *that* would be.

In essence, all navigation within the Ketamine space can be done by focusing your consciousness into a single nodal point and moving up and down the various medians within your body. If you want to do some brain work, simply slide the nodal point up into your head and traverse your neural networks until you find the routines you are looking for. They're all in there, as are all of your memories and internalized models of reality. While traversing through these networks you can relive memories as if you were an impartial observer; sort through lists of deeply ingrained personality constructs and behaviors without an emotional response; browse through all your autonomic controls and hormonal routines; and program future behavior through post-emergent suggestions.

The final and often most rewarding level of the Ketamine experience is the OBE, or out-of-body experience. This level is reached by successfully moving the nodal point outside of your body, and letting your consciousness slurp out along with it. Sometimes it is helpful to simply let the nodal point slide up the spine and slosh out the back of your head through the crown chakra. This is a slightly odd feeling, and will induce a sensation of floating above the body, giving you the strange perspective of looking down on yourself. You can move the nodal point up into the ceiling, down through the floor, through the sewers, up through the phone lines, across rivers, over mountains, around the world on the internet, and out into space. You can even move through cellular stuff you don't even recognize, or through quantum worlds that are just flickering fields of energy transference. The key to finding your way around is setting landmarks—creating a hyperspatial trail of crumbs if you will. It is easier than it sounds because you'll find yourself in oddly familiar places that you know you've never been to before.

A single Ketamine session usually only lasts about 45 minutes to an hour, so before you know it your nodal point will begin to dissolve, and you'll be emerging back into a big tingling ball of white light. This is the true shape of your energy body, and this is the sensation of your body coming back online. If you happen to open your eyes during this period, there is a good chance you will actually be able to see your aura shimmering around you like a magnetic field in flux. At this point you should return to your home axis and let the nodal network map back onto your body. As you come back online, you will feel weak, but also cleansed, refreshed, and ready for a good stretch.

A Note on Addiction

The rewarding aspects of Ketamine seem endless. Navigating these energy networks gives you access to a limitless area of deep knowledge. The most seductive power of Ketamine is that it is simply impossible to navigate through all of the networks presented in a single session, probably not even in a single lifetime of prolonged use. Since the imagination is infinite, Ketamine exploration could theoretically go on forever. This, more than anything else, is what makes Ketamine an extremely addictive substance. In order to combat it you must moderate your use and not let Ketamine take over your life. A few good rules of thumb to follow to avoid addiction are 1) Never do repeat doses in a single session. Always come down fully from each dose and wait a few

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GENUINE IMITATION BORAMETZ

Do Not Be Fooled!

by John Hanna

PSYCHOACTIVE SNAKE OIL

HAND ME DOWN A NEW PANACEA...

I first heard about Borametz in early November of 1996. A subscriber to my publication, the *Psychedelic Resource List*, mentioned that he was selling an extract called Borametz which was obtained from an obscure Russian evergreen tree. He likened the effects to MDMA and GHB, claiming that the extract produced theta brainwaves and had been shown to be useful in ESP experiments. The extract was apparently used in Russia as a powerful aphrodisiac. Purported to release increased amounts of human growth hormone, Borametz was used by body builders to help increase muscle tissue and lower body fat. My correspondent claimed that there were "no health risks from the use of Borametz." I am skeptical by nature, and this all sounded too good to be true. So, to give it a try, I sent off $30.00 for a one ounce bottle containing seven to ten doses.

As I try to keep up on various psychoactive plants, I checked my library for any mention of "Borametz," hoping to track down the Latin name. Nothing in *Pharmacotheon*. Nothing in *Potter's Cyclopeadea of Botanical Herbs & Preparations*. Numerous other books checked also yielded no fruit. Finally, I came across a brief mention in the *Reader's Digest Magic and Medicine of Plants*. Therein it was reported that Borametz is another name for the Tartarian lamb tree — a mythical plant, based on a description of the cotton plant by Herodotus (the fifth century Greek historian). This single reference to Borametz fingered it as a *mythical* tree. This was my first clue that something was amiss.

I asked my supplier for more information about Borametz when I sent off my money. I also found a research ally in Richard Heffern, author of *Secrets of Mind-Altering Plants of Mexico* and numerous other books on herbs. Richard and I had corresponded a bit about the current legal situation regarding GHB, and he was also interested in the Borametz mystery.

THE BOTTLE ARRIVES

My bottle of Borametz arrived — along with documentation titled "Facts About Borametz Oil And It's (*sic*) Use" that backed up the claims made for its usefulness as an aphrodisiac and a growth hormone enhancer. The documentation looked like the type of promotional material that a wholesaler sends out to a distributor — high on claims and low on references. It mentioned a Dr. Vladimer Portnoy, head of the Sexual Dysfunction Department of St. Petersburg General Hospital, and a Lech Polansky, M.D. who had performed the "Borametz Extract Clinical Study," but no contact info was given for either man.

Accompanying the bottle of Borametz was a letter from my source,

asking me if I was going to review the product in the *PRL* to please "avoid [making] comparisons with GHB and statements about [Borametz'] consciousness-altering and theta brainwave effects." My supplier was worried about a possible run-in with the FDA, due to the recent hubbub over GHB.

Cracking the bottle, I took a dose — 4 ml on an empty stomach. Twenty to thirty minutes later, I was surprised to find that I *was* becoming more relaxed. Tension and worries slipped away and my mind entered a blank state. The normal noise of my thoughts buzzing around in my head had stopped, and I felt calm and centered. I also felt a little bit dizzy, as if I had drunk a few glasses of wine. The effects lasted a couple of hours at most — dissipating when I ate dinner. Overall, I felt as if I had just taken 2.5 grams of GHB.

WHATEVER YOU DO, DON'T MENTION GHB!

Although my supplier asked me to avoid comparing Borametz to GHB, I couldn't in good conscience honor this request. I called my supplier and told him that, in reviewing this product, there was no way that I could avoid a comparison to GHB; Borametz was simply too similar. My supplier agreed that it was fine if I used the comparison, as he had recently been assured that there would be no problems with the FDA since this was a perfectly legal plant extract. Apparently, the FDA will allow you to sell practically any herb or plant extract as long as no unsubstantiated medical claims are made on the product's label. Indeed, in 1994, Congress passed the Dietary Supplement Health and Education Act, which places the responsibility on the FDA to prove that an herbal product is unsafe, rather than the manufacturer having to prove that it is safe.

THE TASTE TEST CONTINUES

I listed my Borametz supplier in the December 1996 issue of the *PRL*. However, I felt that I needed to get some other opinions about Borametz. I gave a dose to a friend, who — when the effects came on — said that he was almost positive that he had taken GHB. I took a bottle to the Botanical Preservation Corps seminar in Mexico and gave it to one of our instructors, a noted entheobotanist. He tasted an eyedropperful, screwed up his face (Borametz is not too yummy), and said "GHB." This gentleman was of the opinion that Borametz was merely misrepresented GHB. He questioned the fact that the extract was completely clear, stating that in all his years of professionally producing natural products he had never come across a clear plant extract. He later took a dose of the extract and found it to be "just like a medium dose of GHB" in effect.

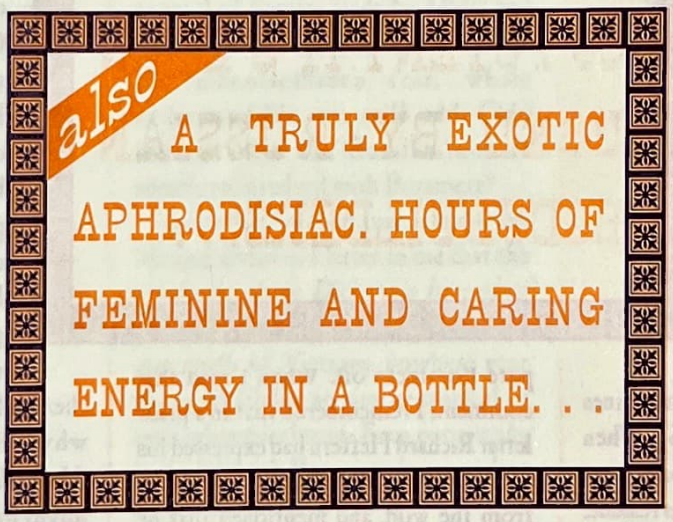
Now I could see why my supplier might not want any comparisons made to GHB. If the product was simply misrepresented GHB, he could find himself in a whole lot of trouble. However, one piece in this puzzle kept nagging at me — the Borametz extract didn't have the typical salty taste that GHB has. It had the yucky chemical flavor, but the saltiness was absent. Perhaps the saltiness was masked by the "natural flavor" listed on the bottle's ingredients.

A PLANT SOURCE FOUND?

While pondering whether or not Borametz was merely GHB, I received a reply from Richard Heffern. Richard had tracked down a plausible lead for the Borametz source plant — *Dicksonia barometz*, a rare species of tree fern found in Eastern Asia. Richard noted that since the name Borametz was trademarked, it might be a deliberate misspelling of *barometz*, the plant's possible Latin family name.

MR. BMZ AND THE INTERNET

About this time, posts regarding "BMZ" (Borametz) started to appear on an underground e-mail list related to entheogens. I contacted the individual who had posted about BMZ, and asked him to relate to me whatever information was on the bottle's label. The bottle was produced by the now defunct Phoenix Products, a different company than the one I had listed in the *PRL*. I was also given the name and address of the distributor who was providing the product. When I contacted this individual, it turned out that he was *not* selling the product commercially yet, as he was attempting to "minimize its exposure until a large bodybuilding company currently working with a contract [could] release it in further diluted form with sufficient legal backing to fend off the FDA and prevent



it [from] going the way of GHB." This individual — forthwith referred to as "Mr. BMZ" — seemed to have *a lot* of information about Borametz. He commented that "The lack of a clear scientific name is a shady attempt at securing the source while still 'revealing' the name and nature of the plant sufficient for labeling purposes." Mr. BMZ *also* asked me not to make any reference or comparison to GHB. He claimed to be getting his Borametz from the same Russian supplier as my original source.

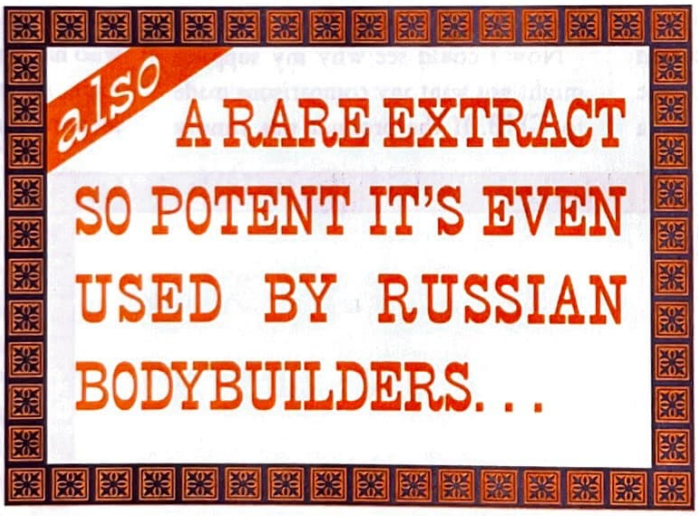
GHB THEORY EVAPORATES...

Determined to figure out if Borametz was merely tricked-up GHB, I decided to evaporate off a dose and see if a salt remained, as GHB in dry form exists as a salt. First I tried to evaporate off four ml of Borametz by setting it on my stove's pilot light in a glass baking dish. The Borametz was very oily, and after more than two weeks nothing appeared to have evaporated. I decided to apply some more direct heat.

As a control, I mixed 2.5 grams of GHB into 4 ml of water, and evaporated off the water. About 2.5 grams of a crusty caramel colored goo resulted. Next I evaporated off the Borametz. Unlike the GHB, which produced only a slight amount of white smoke when heated, the Borametz produced large quantities of white smoke that smelled similar to Rosco Fog Fluid (the stuff used in fog machines by hard-rock bands like KISS). When it evaporated, I was left with only 1 mg of caramel colored goo. I ate this residue, and it was inactive. This confirmed in my mind that Borametz was not GHB; there was no salt residue left, and the residue that *was* left was inactive.

THE "BORAMETZ PLANT"

Meanwhile, Mr. BMZ was hitting me with numerous "facts" about Borametz. He agreed that Borametz probably came from the plant *Dicksonia barometz*. Though I remained skeptical, Mr. BMZ assured me that the Borametz "super-oil is a phytosterol distillate fraction from the fresh leaf." Calling Borametz "a beautiful gift of nature," he again pressed me not to compare Borametz to GHB as he could be cut off from his source if this went too far. Indeed, a pointed plea stated "[Borametz] is not even supposed to be officially on the market yet. A little got out for friends, research and development, etc., and it may yet get out of hand. If 10,000,000 athletes want it they are likely to cause a stir and get it; it helps kids grow instead of shooting steroids, for crying out loud! But if a few blow-it-case ravers laugh at, chuck at, and spill their guts to the wrong people or a few jealous distributors send in samples and complaints to the FDA, or etc., etc., etc., then nobody gets it..."



pure Borametz oil. When I read this comment, I remembered that in a prior letter Richard Heffern had expressed his concern about harvesting a rare plant from the wild, and mentioned that he hoped that the plant was being commercially cultivated. I asked Mr. BMZ about this, and he replied that my "concern about wildcrafting is relevant. I'm happy to say the plant in the [wild is] abundant from what I've read and enough [Borametz oil] was supposedly made last year to dose the entire world! And since the vast reserves in Russia seem to be fine (harvesting only the leaves allows the plant to come back the next year) there has been no need to use the abundant amounts of the plant growing in other countries (like China)."

A BARRAGE OF E-MAIL

E-mails continued to be posted to the underground list. Despite the similarities noticed by myself and others between Borametz and GHB, Mr. BMZ claimed that the effects of Borametz are clearly different from GHB, and stated that "Borametz is much easier to handle, to notice at low doses, and harder to pass-out or vomit on than GHB. Borametz is also said to feel more 'gentle, soft, organic, friendly, caring and feminine' than GHB."

FRIENDLY, CARING, AND FEMININE?

Borametz is more "friendly, caring and feminine" than GHB? What the hell does this mean? The more I read about Borametz, the more I became convinced that it *wasn't* a plant-based product at all. Its proponents were clearly organophiles, praising Borametz' "natural plant goodness" while eschewing any overt connection to the chemical GHB. There had to be a reason why. Reading a back-issue of *HerbalGram* (No. 39), I realized that I might have found the reason.

An article titled "'fX': Chemically Adulterated Product Does Not Contain Kava" described an "herbal high" product called "fX" that made numerous

people ill at a 1997 New Years rave in Los Angeles. The fX was supposed to contain kava kava as its active ingredient. The American Botanical Council (ABC) had fX chemically tested, and it turned out that there was no kava in it at all. What they did find was 1,4 butanediol (aka butylene glycol), a chemical that the human body converts into GHB! My mind clicked. Since Borametz was clearly not GHB, it struck me as likely that it was actually 1,4 butanediol.

I posted an e-mail to Mr. BMZ, mentioning that I thought that Borametz was actually 1,4 butanediol. I stated my intention to contact the ABC and have Borametz tested. A post quickly hit the underground e-mail list stating that:

> "It appears that an effort has been made to suppress knowledge of the biodynamics of Borametz oil (which is probably 1,4 butanediol / fX) an isolated 'chemical' oil fraction found in *Dicksonia barometz* leaves and purified by vacuum distillation rather than solvents. I personally wouldn't send it in to the FDA or ABC with a letter of complaint (as some people have perhaps already done) because I'm a fan of the stuff and I know they're not. Several names for it are used on the market. Usually the name 'boramet herb(acea) oil' and info on the Boramet page (both given by the Russian source) are used, or some part thereof. Other times (like with fX in L.A.) for financial or legal reasons individuals have entirely mislabled and misused it, not to make a synthetic product look natural or keep it low-key and legal, but to keep the Boramet market to themselves and make money by deceiving people."

After reading the above response to my post, I was convinced more than ever that Boramet was a scam — a chemical wolf in mythical sheep's clothing. Lancaster Chemical Supply company sells 1,4 butanediol to laboratories for $15.50 per kg. At this cost, if those who sell Boramet *were* using a chemical source, they would be making a 6400% profit! With this *outrageous* profit margin, it was even more difficult to believe that Boramet' 1,4 butanediol was extracted from plants, especially if it takes one kilo of plant material to make one gram of oil — *over eight pounds of plant tissue per dose!* While it is true that numerous plants contain 1,4 butanediol in small amounts, I have seen no evidence yet that this is a component of *Dicksonia barometz*.

THE "TEST," THE RUSSIAN MOB, AND A GEOGRAPHY LESSON

Mr. BMZ agreed to have his supplier chemically test Boramet to determine its exact makeup. He also mentioned that another potential importer had actually sent someone to Russia and found the manufacturer, who was visibly paranoid and would not say anything about the production process. Mr. BMZ attributed much of this paranoia to the control of Russian trade by Mafia and secret police. He did think however, that the manufacturer's fear, while understandable was still odd. Odd indeed! Now the Russian mob is somehow involved with Boramet?

My entheobotanist instructor from Mexico noted in a letter to me that the provinces where *Dicksonia barometz* grows are just west of Hong Kong and just north of Vietnam, nowhere near Russia which has no similar tropical or even subtropical zone. Even *geography* is at odds with Boramet being a plant extract produced in Russia.

On June 10th, 1997, a post appeared on the entheogen-related e-mail list stating that, "[Mr. BMZ] and several distributors have stopped selling

GHB

Grave Bodily Harm?

Gamma-hydroxybutyrate (GHB), is chemically similar to the neurotransmitter GABA, and it is thought to be both a precursor and a metabolite of GABA. GHB is completely metabolized into carbon dioxide and water in the body; the metabolism is so complete that GHB will not be detected in a person's urine after only four hours.

GHB is a very safe, nontoxic substance. However, it has recently been demonized by the mainstream media, due to a handful of highly publicized adverse reactions. Despite GHB's accepted safety, it can have unwanted side-effects. Generally, a "dose" is between one and three grams. Users should start low, and work up until they achieve the desired effects (the "high" has been compared to alcohol and/or MDMA by some). Most problems have occurred when GHB has been combined with other drugs, or more commonly, with alcohol. Combining GHB with alcohol is a bad idea, as respiratory failure may result. GHB overdoses can cause one to pass out into a deep sleep lasting for one or two hours, and some people who have overdosed experienced nausea, vomiting, diarrhea, bladder control problems, sleep walking, and muscle spasms.

GHB has had numerous medical uses, including use as a general anesthetic, as an aid in childbearing, and to treat insomniacs, narcoleptics, and alcohol withdrawal symptoms. Nevertheless, in 1990 the FDA issued a press release that effectively acted as a ban on the sale of GHB. Though GHB is not scheduled by federal law, the highly publicized overdoses have now resulted in the placing of GHB in Schedule I by a few states, including Georgia, Rhode Island, and Florida. California is likely to follow suit.

Borametz until this debate clears." Following this, I received a post directly from Mr. BMZ wherein he stated that because he was unsure of the composition of Borametz he had stopped selling it "except to those trusted individuals who want it as a nonconsumable potential petroleum distillate for experimental purposes only." He still asserted that Borametz was probably safer than many actual legal herbal products.

From the sound of the above comments, it appeared as though Mr. BMZ was now convinced that Borametz *was not* a natural plant extract, even prior to having his testing done. When the "test results" came back, the following was e-mailed to me from Mr. BMZ:

> It has been determined that Borametz oil is a chemical cocktail [including 1,4 butanediol and 1,2 propanediol]. The only 'plant extracts' in it are DMSO (from wood pulp), stevia sweetener, and cherry flavor. Most, if not all, sales have long since stopped, the large wholesalers and retailers have been notified, returns have been (and are) refunded, and human consumption is not encouraged.... Borametz should also have been labeled like cigarettes with an additional 'Not to be used during pregnancy or nursing; keep out of reach of children; potentially carcinogenic and mutagenic in humans' on the side.

The statement about 1,4 butanediol being "potentially carcinogenic and mutagenic" gave me pause, so I did some research. A May 1996 statement made by the National Toxicology Program reads, "...it is the opinion of the NTP that 1,4 butanediol should be considered *not* carcinogenic in animals and no further evaluation of 1,4 butanediol is needed at this time." [Emphasis added.]

Indeed, more research turned up the fact that 1,4 butanediol has been used as part of a synergistic food preservative for small-particle foods such as grated cheese! A quick call to the FDA turned up the fact that 1,4 butanediol has been approved for use in sausage casings and as a solvent in natural and synthetic flavoring substances. Additionally, it has been used as a preservative in pharmaceuticals and cosmetics. A keyword search on the Internet turned up "T'rific! Clarifying Clay Masque," "Skintelligence pH Skin Normalizer," and "Beardsley Conditioner/Beard Shampoo," among others. For more information on the numerous uses of 1,4 butanediol, I encourage folks to check out Vol. 125, 1996 of the *Chemical Substance Index*, starting on page 3411.

A final report from Mr. BMZ stated their chemical screening of Borametz by an MIT chemist showed that it contained *mostly* 1,3 butanediol, with only 5% 1,4 butanediol. As 1,3 butanediol is *not* psychoactive, this statement simply isn't consistent with the amount of 1,4 butanediol needed to produce a "high." With pure 1,4 butanediol, one needs 3-4 ml for an effect — virtually the same amount as is needed with Borametz. Things just weren't adding up.

I passed a sample of Borametz to a chemist, who tested it via a process called gas chromatograph/mass spectrometer (GCMS) which was suggest by Dr. Alexander Shulgin. He found the sample to contain 93.67% 1,4 butanediol and 6.33% 1,2,3,4 butanetetrol. He added "The claim that the product contained natural extracts is almost certainly false.... This is tech-grade chemical, in my opinion."

THE FINAL CHAPTER?

Were my Borametz suppliers in on this scam from the start? I don't think so. If this had been the case, it is doubtful that Mr. BMZ would have come forth with the test results/ingredients list. And, as Mr. BMZ stopped selling Borametz, the fact that his reported test results were inaccurate suggests that he was being lied to by *his* supplier. However, when I asked Mr. BMZ for the name of his supplier, he wouldn't give it to me, citing "business ethics" as his reason. While it is hard to argue with this reasoning, it certainly makes it difficult to point a finger at those people who *are* responsible for this scam, and I can't imagine why Mr. BMZ would want to protect the guilty.

While I have nothing against 1,4 butanediol (indeed, I find it be quite pleasant on occasion), I *am* opposed to the deliberate mislabelling of products. Borametz is currently still sold on the Internet by a company called Advanced Sports Nutrition. They call it "Promusol" and state that it is "100% pure Borametz extract, a phytosterol oil imported from Russia." Their on-line information is *exactly* the same as the documentation that I received from my original supplier. This suggests that they are purchasing it from the same source as my supplier and Mr. BMZ did.

Another company, Biocopia, is also selling Borametz under the name "Bio Metabolic P.M."

Just as Borametz popped up when those selling fX were shut down, I suspect that 1,4 butanediol may find its way into another mislabled "natural herbal high," when Borametz is no longer available. The game goes on. There will always be some huckster selling ineffective herbal highs, or mislabelling effective synthetics as natural plant-based products.

1,4 butanediol appears to be fairly safe for occasional internal use, however certain precautions should be taken. The appropriate dosage is important. A single dose is generally considered to be 3-4 ml. As with GHB, overdoses may cause nausea, vomiting, convulsions, passing out or deep sleep, and dizziness. 1,4 butanediol should not be consumed with alcohol. And of course, it is not wise to drive or operate heavy machinery under the influence of this or any other drug.

As notoriety and popularity of 1,4 butanediol grows, the FDA may attempt to place restrictions on its sale, as they have tried to do with GHB. However, I doubt that it will ever be scheduled or made illegal to possess due to its extensive commercial applications. ◆

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SOURCES

Advanced Sports Nutrition
http://www.a-s-n.com/promusol.html
(800) 800-9119
Sells Borametz as "Promusol," a 60 ml spray bottle is $39.95 plus $5.00 S&H.

Biocopia
650 Lighthouse Avenue, Ste. #110
Pacific Grove, CA 93950
(800) 951-4325 / (408) 372-4320
Sells Borametz as "Bio Metabolic P.M."
Biocopia is a multi-level marketing company that sells their products at wholesale prices to "distributors."

Ashland Chemical
POB 2219, Columbus, OH 43216
888-ASHCHEM · wrd@infinet.com
Lists 1,4 butanediol under "emollients" as butylene glycol. Ashland Chemical only sells to businesses.

JLF: Poisonous Non-Consumables
POB 184, Elizabethtown, IN 47232
(812) 379-2508
$78.00 postpaid for one pint of 1,4 butanediol.

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Lancaster's 1995/96 Catalog. 1,4-Butanediol listing (p. 253). Lancaster Synthesis, Inc., Windham, NH.

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Chemical Abstracts, Vol. 111, No. 132,901q

Chemical Substance Index 125, 1996 (starting on page 3411CS), *Chemical Abstracts*.

Greetings Intrepid Travelers...

Sasha Shulgin is known to many of us from his now famous book *PHIKAL*. This new limited edition print "CHIKAL" (Chemists I have Known & Loved) is a portrait of Sasha Shulgin produced to help fund research into the therapeutic uses of MDMA. All profits from the sale of these prints will be donated to MAPS and target specifically for MDMA research.

Each of these limited series of 500 prints is signed and numbered by the artist. The prints are on high quality paper, and are 22" x 30" overall. The cost of each print is $40 which includes shipping and handling.

Now if we can sell all 500 prints we will be able to donate $14,500 to MAPS! Order two and give one to a friend!

To order, send check or money order to:

Henry Orszula
946 Orleans Rd., Suite G1-163
Charleston, SC 29407

Other prints of psychedelic pioneers will be available soon. Stay tuned!

ENGINEERING A VISIONARY RACE

by Richard Thieltges

entheogenetics & the future of mind

WE KNOW THAT ONE of the main characteristics of the human species is a fascination with exploring alternative states of being and consciousness. The first roots of human development, the shamanic cultures of our early human ancestors, already show a fascination with exploring alternative states of consciousness through ritual, sound, movement, ordeal, and entheogenic drug ingestion. These technologies of the sacred have been expanded over the centuries of human development in the disciplines of art, religion, sports, yoga, devotion, service, and the increasingly worldwide use of plant teachers. Recent research has lead many to postulate that these technologies of ecstasy all lead to the same neurochemical events (1).

These ways of exploring alternative states of consciousness and connection, both ancient and new, have always appealed to a certain fraction of the earth's population — those who have an inquisitive mind and a daring nature. Now however, we are faced with a situation in which we have over five billion human beings on this planet, and a doubling time for our population of under forty years. We no longer have the luxury of unlimited time for a cultural elite to gradually evolve, and for cultural diffusion to gradually spread the ideas of this elite to our burgeoning population.

Accordingly, in this article I will put forth the daring proposition that, along with the genetic engineering of our future population to meet environmental constraints, we also have the possibility of genetically engineering new, connected, mystical states of being, not just for the religious geniuses or the mystically motivated, but for the common man and woman. It seems that only those states of mind that are common and ordinary among the population will have the ability to change the behavior patterns of our species in such fundamental ways so as to avoid an ecological catastrophe.

It is now possible to fully appreciate the implications of recombinant DNA technology and the psychedelic experience for the evolutionary future of our species. As one molecular geneticist has said, "It is possible to take a gene out of anything, and put it into anything".

The implications of this statement are that, as a species, we will theoretically be able to redesign any life forms we wish, including ourselves. From this point on, at least in theory, we can choose to be the inhabitants of any ecological niche we desire. As a successful species diversifies in order to fill ever more ecological niches, so we too have the possibility of reacquiring the gills from the fish family in order to exploit the ocean depths, or to grow the coat of the bear in order to inhabit the northern climates without undue energy consumption. It is also possible to transform our annual food crops, the growing of which requires much labor, technology, and energy, into self-regenerating earth-healing perennials. But it is to the genetic engineering of future states of consciousness of our species that I wish to address this paper.

> We now have the technology to genetically engineer new connected mystical states of being, not just for the religious geniuses but for the common man and woman.

We are currently socially fragmented and spiritually unconnected as a people. A handful in every generation experience the connected, aware states that our most highly spiritually developed people tell us are possible. There is now a growing body of evidence from the study of South American ayahuasca shamanism that such states can be achieved at will in ordinary people by the ingestion of tryptamine and harmala alkaloids. In these shamanic cultures, people are connected energetically and socially in ways that seem to be very beneficial. Some experienced users of these substances report the formation of something like group consciousness.

The supplementation of these substances, which could be seen as a vitamins, could catalyze a very connected group-mind state in groups of people who would regularly use them. But here again, we run into the problem of motivation and opportunity. Not all will have both. And it is to all of humanity that we must be attentive. The future of our species must be an evolutionary one, that is, it must be made available to all by being part of our nature and being. Only then will it affect enough people to stop the out-of-control population and material growth.

This is where our new abilities in genetic engineering come in. We know the biosynthetic pathways that the plants use to synthesize visionary compounds, and we can move the genetic codes for the production of these compounds into any organism we chose. So for example we could move them into *E. coli*, which has a symbiotic relationship with us in our gut. Modified *E. coli* strains could be introduced into our intestinal tract which would synthesize a steady flow of our deficient metabolites, the absence of which cause us to be disconnected from each other.

Several recent studies have focused on the pineal gland and its role in mystical and spiritual experiences (2,3). The products of the pineal gland, which include the tryptamine alkaloid 5-methoxy-N,N-dimethyltryptamine (5-MEO-DMT)(4,5), are said to be released in large amounts during the birth experience, and thereafter decline during the early years, until during puberty, when the pineal gland partially calcifies and ceases production for most people. Many intriguing suppositions postulate that mystics and religious geniuses are those who have a biochemical disposition to sustained production of the tryptamine products from the pineal gland throughout life, and there is also interesting evidence that many of the spiritual practices are aimed at stimulating the production of this mysterious gland, located in the center of the forehead, the reputed spot of the third eye (6).

Supplementation with the product of this strangely quiescent master gland has been carried out in many cultures of our planet through the use of shamanically sanctioned potions, such as ayahuasca (7). These shamanic potions contain DMT and 5-MeO DMT, along with an MAO inhibitor, in order to protect the active ingredients from being deactivated by protective body mechanisms in the digestive system. Studies seem to confirm that the regular use of potions containing these two tryptamines does not seem to be harmful, but on the contrary, endows their regular users with confidence, optimism, vigor and reflection, all characteristics that we would wish for in future generations (8,9).

There is another and more practical reason to focus on the tryptamines, and that is that they are produced by many plant families, and especially by a genus of grasses, the *Phalaris*, that is easy to grow and study and has a wide variability in genetic production of alkaloids, making it easy to manipulate.

Accordingly, the bulk of this paper will concentrate on presenting genetic information that may perhaps interest molecular biologists, geneticists, breeders, and others with an interest in psychological evolutionary biology.

Festi and Samorini (11) reported 14 alkaloids in *Phalaris arundinacea* and *Phalaris aquatica*. Marum, Hovin and Marten (12) assigned seven of these indole alkaloids to one of three groups, and proposed a genetic model for the production of these groups. Group T contains the tryptamines and carboline derivatives N-methyltryptamine (NMT), N,N-dimethyltryptamine (DMT), and 2-methyl-1,2,3,4-tetrahydro-ß-carboline (MTHC). Group MeO contains the methoxylated tryptamines and carboline derivatives 5-methoxy-N-methyltryptamine(5-MeO-NMT), 5-methoxy-N,N-dimethyltryptamine (5-MEO-DMT), and 2-methyl-6-methoxy-1,2,3,4-tetrahydro-ß-carboline (6-MeO-THC). Group G contains gramine.

According to the Marum model, Group T is controlled by the dominant gene T, and group MeO is controlled by the dominant gene M. The presence of any M masks the effect of T, and Group G is produced only when both genes are homozygous recessive. Thus group G=mmtt, group T=mmT-, and group MeO = M- —.

If we plot out all the possible combinations of M and T, as in **Figure 2**, we find sixteen possible genetic combinations, of which 12 would yield group MeO alkaloids, 3 would yield group T alkaloids, and only one would yield group G alkaloids. This does not predict the actual percentages of each alkaloid family found in nature, as the frequency of occurrence of each gene in the population is not the same.

Figure 2.
Distribution of M and T genes for alkaloid production in *Phalaris* sp.

♂ \ ♀	MT	Mt	mT	mt
MT	MMTT	MMTt	MmTT	MmTt
Mt	MMTt	MMtt	MmTt	Mmtt
mT	MmTT	MmTt	mmTT	mmTt
mt	MmTt	Mmtt	mmTt	mmtt

M– – – = methoxylated Tryptamines
mmT– = Tryptamines
mmtt = Gramine

A Recent Alkaloid Survey

Fifty-one seed sources of *P. arundinacea* were tested for alkaloid family expression by the author. From 5 to 55 individual seedlings of each seed source were sown in the spring, and the foliage was tested in the fall by the method of Marum *et al* using thin-layer chromatography. **Table 1** shows the list of the accessions by plant identification number, their alkaloid ratio, and tentative genetic type.

Eight populations contained the MM homozygous gene for true breeding MeO alkaloid lines. Eight populations contained the homozygous recessive genes for group G. While a few plants tested positive for group T alkaloids, there were no Group T true breeding alkaloid lines, which agrees with Marum et all, who found only 1 % of group T plants in their survey. While there were some Group T plants found, their alkaloid characteristics would be retained only if they would be propagated vegetatively.

Alkaloid Biosynthesis in Organisms

The next question is what is the biosynthetic pathway which produces DMT and 5-MeO-DMT, and how does it relate to these proposed genetic models?

Table 1.

Phalaris arundinacea alkaloid family ratios and genotypes.

PI Number	G-M-T Ratio	Population genotype
172443	0-1-0	MM--
234694	0-1-0	MM--
234697	0-1-0	MM--
235547	0-1-0	MM--
369291	0-1-0	MM--
435305	0-1-0	MM--
435308	0-1-0	MM--
383726	0-1-0	MM--
539029	0-4-1	MmTT
227670	1-0-0	mmtt
422031	1-0-0	mmtt
435301	1-0-0	mmtt
435302	1-0-0	mmtt
435309	1-0-0	mmtt
440585	1-0-0	mmtt
557461	1-0-0	mmtt
NSL 180170	1-0-0	mmtt
284179	1-0-1	Mixed
235484	1-24-1	Mixed
241065	1-1-0	Mixed
251531	1-1-0	Mixed
315487	1-14-1	Mixed
505893	1-2-0	Mixed
253316	1-4-0	Mixed
369290	1-4-0	Mixed
435298	1-4-0	Mixed
435304	1-4-2	Mixed
435299	11-27-9	Mixed
435295	12-8-4	Mixed
315486	15-6-16	Mixed
255887	17-11-1	Mixed
392389	2-1-0	Mixed
435303	2-1-0	Mixed
337718	25-26-2	Mixed
253317	3-14-0	Mixed
234780	3-2-0	Mixed
236525	3-2-0	Mixed
435311	3-2-0	Mixed
435312	3-2-0	Mixed
435294	35-18-2	Mixed
237724	4-2-0	Mixed
NSL 108391	4-3-0	Mixed
539030	5-1-0	Mixed
253315	5-11-0	Mixed
435297	5-29-1	Mixed
209979	50-50-0	Mixed
505892	6-1-0	Mixed
235023	6-11-0	Mixed
440584	6-3-0	Mixed
422030	6-4-1	Mixed
406316	8-8-4	Mixed

The biosynthesis chart developed by Baxter and Slaytor(13), which forms the basis of most of the assumptions in this paper, is shown in **Figure 3**. It starts in the upper left hand corner with tryptophan, one of the twenty essential amino acids which are only obtainable in the diet for mammals.

Each step to the right horizontally, or down vertically, is one enzymatically mediated chemical reaction, with the enzyme responsible for catalyzing that reaction shown in a box. Thus, the first step horizontally shows tryptophan being converted to tryptamine, with the loss of the CO_2 group (carboxylase), and the enzyme responsible for catalyzing that reaction being "Tryptophan Decarboxylase".

Similarly, from tryptophan, one could move vertically down the chart to 5-hydroxy tryptophan by adding a hydroxy (OH) to the 5 position, by the action of the enzyme "Tryptophan hydroxylase."

As one can see, going from tryptophan to DMT involves three enzymatically controlled steps. Going from tryptophan to 5MeO-DMT involves five steps, but which steps is not clear. One needs to look at what route plants actually use to synthesize 5-MeO-DMT.

Marum et al, proposed that the major pathway for 5-MeO DMT production in *P arundinacea* would go directly downward from tryptophan to 5-methoxy tryptophan (presumably going through the 5-hydroxy tryptophan stage), and then progress along the bottom of the chart through the 5-methoxy tryptamine, 5-methoxy N-methyl tryptamine, and 5-methoxy DMT stages.

Baxter and Slator, who did extensive radioactive labeling work on the biosynthesis of these same alkaloids in *P. tuberosa(=aquatica)* reached somewhat ambiguous results, as seven of the alkaloids which were fed as radioactively labeled precursors resulted in the formation of radioactive 5-MeO DMT. One definite result was that DMT was not a precursor for 5-MeO DMT. Their conclusion however, was that the major pathway was as Marum indicated, with alternative pathways possible. Others have reported that the two N-methyltransferases are different enzymes(14), and that the N-methyltransferases involved in gramine synthesis are different from those involved in tryptamine synthesis(15). As to which gene location corresponds to which enzyme, all that can be said at this point is that perhaps M corresponds with tryptophan hydroxylase, as any M masks T would be consistent with the fact that once tryptophan is hydroxylated, it can no longer become DMT.

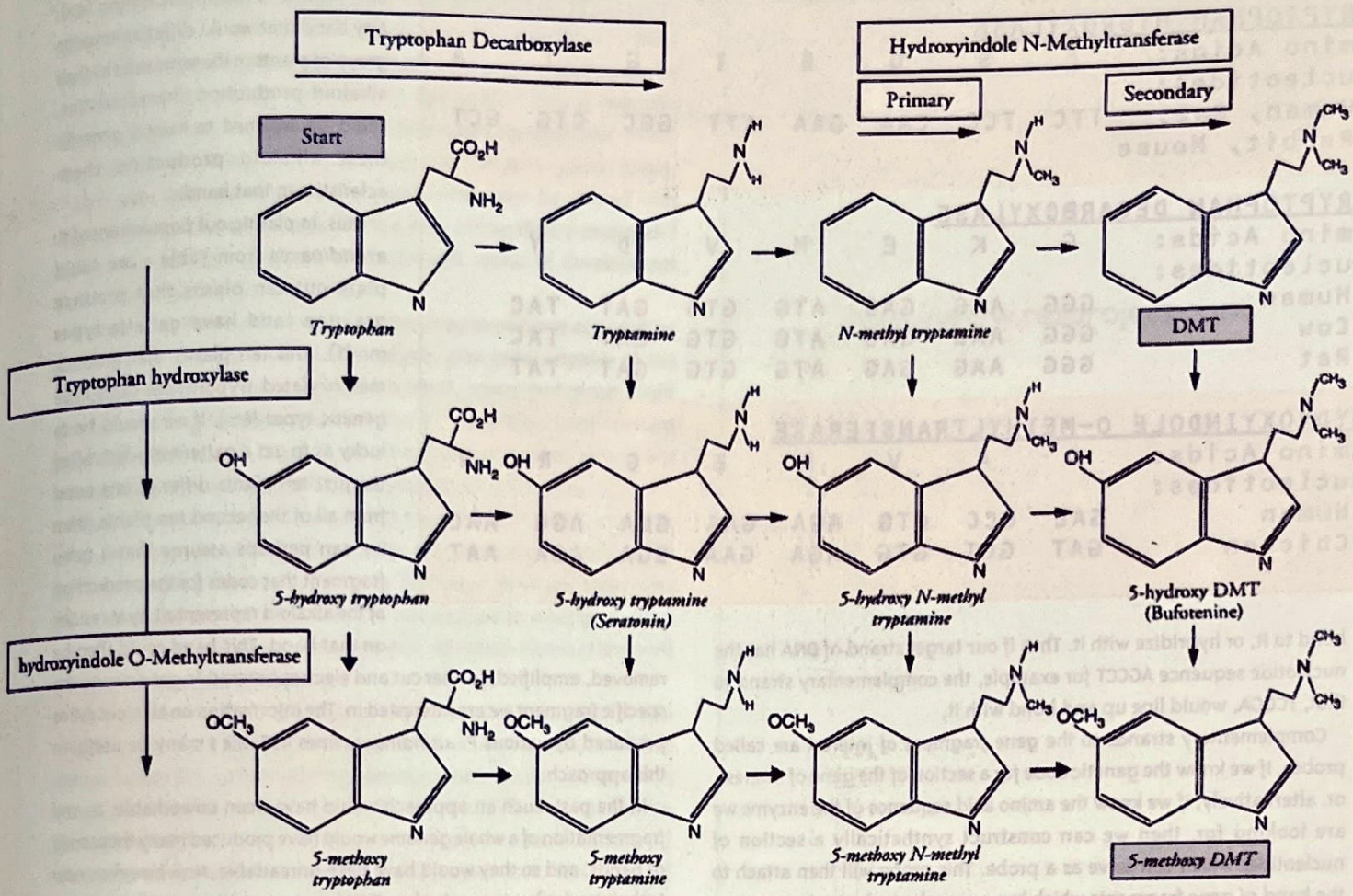
Thus to synthesize 5-MeO-DMT in an organism requires the presence of the initial substrate tryptophan (along with other necessary cofactors), and the presence of five enzymes which catalyze the necessary reactions.

As we have seen before, the function of a gene is to code for the production of enzymes. Thus, we are now at the stage of looking for the five genes which code for the production of these five enzymes.

Necessary Genetic Sequences

In looking at the first enzyme, tryptophan hydroxylase, four organisms were discovered in which this enzyme has been sequenced, that is, the specific amino acids sequences which comprise this complex protein have been identified(16). In none of the organisms were the amino acid sequences identical, although in each case they catalyzed the identical reaction. This is because an enzyme is a long protein that folds up into a complex three-dimensional structure, and the active catalytic site is only one portion of its surface structure. That surface structure has a specific

Figure 3.
Tryptamine alkaloid Biosynthesis Chart



shape into which the target substrate fits in order to be more easily chemically changed.

Thus the gene that codes for this enzyme will also vary among the various organisms, even though the function that the enzyme will perform will be identical.

However, in looking at the amino acid sequences for these enzymes, one finds portions of the sequences that are identical. Some of these are probably the 'active site' sequences that are the same in all species. They are also the sequences that we can use to search for the gene site in an organism that has not been sequenced, such as *Phalaris arundinacea*.

So, for example, in looking at the sequence codes for the enzyme tryptophan hydroxylase in the organisms human, mouse, rabbit, and rat, we find a sequence of amino acids which is FSQEIGLA in all 4 of these organisms. The equivalent genetic codes are TTC TCC CAA GAA ATT GGC CTG GCT. These are the same in all four organisms, even though many of the amino acids can be coded for by more than one set of three nucleotides.

Table 2 contains some common amino acid sequences and the equivalent genetic codes for 3 of the 5 enzymes required for biosynthesis of 5-MeO-DMT.

Genetic Engineering with Amino Acid Codes

It is one thing to know the theoretical codes of a plant product of interest, but is quite another to grapple with the intricacies of actually attempting to find, extract, and insert appropriate gene fragments into other organisms.

In the following section, we will discuss three general approaches to finding and isolating the genetic fragments we are interested in(17). The three approaches are: 1) Screening of fragmented DNA with a probe, 2) Comparing fragmented DNA patterns of populations to their alkaloid production patterns, and 3) Shotgun cloning. These are very simple conceptual discussions, the actual techniques require considerable experience and research.

Screening Fragmented DNA

In this strategy, DNA is extracted from the plant material and purified. It is then digested or 'fragmented' by the addition of 'restriction enzymes', specialized enzymes that cut strands of DNA at specific points(18,19). This mixture of DNA fragments is then separated by size through a technique called 'gel electrophoresis'(20), which is something like thin-layer chromatography, only in this case the DNA fragments are moved differentially through a gel by an electric current.

This produces a pattern of bands of DNA fragments, each band of which is a different length. One of these bands contains the gene segment we are interested in, but which one? We find the band containing the fragment of interest through a technique called probing. This is a technique that is based on the phenomenon of hybridization. This means that if a segment of DNA is complementary to another segment, it will

Table 2: Consensus Amino Acid and Nucleotide Sequences for Selected Enzymes

TRYPTOPHAN HYDROXYLASE								
Amino Acids:	F	S	Q	E	I	G	L	A
Nucleotides:								
Human, Rat, Rabbit, Mouse	TTC	TCC	CAA	GAA	ATT	GGC	CTG	GCT
TRYPTOPHAN DECARBOXYLASE								
Amino Acids:	G	K	E	M	V	D	Y	
Nucleotides:								
Human	GGG	AAG	GAG	ATG	GTG	GAT	TAC	
Cow	GGG	AAG	GAG	ATG	GTG	GAT	TAC	
Rat	GGG	AAG	GAG	ATG	GTG	GAT	TAT	
HYDROXYINDOLE O-METHYLTRANSFERASE								
Amino Acids:	D	A	V	R	E	G	R	N
Nucleotides:								
Human	GAC	GCC	GTG	AGA	GAA	GGA	AGG	AAC
Chicken	GAT	GCT	GTG	AGA	GAA	GGA	AGA	AAT

bond to it, or hybridize with it. Thus if our target strand of DNA has the nucleotide sequence AGCCT for example, the complementary strand to that, TCGGA, would line up and bond with it.

Complementary strands to the gene fragment of interest are called probes. If we know the genetic code for a section of the gene of interest, or, alternatively, if we know the amino acid sequence of the enzyme we are looking for, then we can construct synthetically a section of nucleotides which can serve as a probe. This probe will then attach to the band of gene fragments which has a complementary sequence.

If we also label our probe, through florescent or radioactive methods, then after hybridization, we can use an appropriate visualization technique to determine just which band contains the gene sequence of interest.

One problem with only knowing the amino acid sequence of the enzyme we are looking for is the problem of degeneracy. Degeneracy means that each amino acid can be coded for by more than one set of codons. For example, the amino acid glutamine is coded for by the codons CAA and CAG. Thus in this approach it is necessary to use a population of mixed codons.

Once we have identified a band that has hybridized with our probe, we can remove that band, further cut and electrophorese, until we get down to the specific band of interest. The coding information in Table 2 can be useful in an approach of this sort. Since the most common probes contain 18-30 nucleotides, these sequences should suffice(21).

Comparing DNA Fragments

In this approach, purification of DNA and electrophoresis are also used. However, the pattern of bands produced is compared to the known characteristics of the organism, in this case, alkaloid production patterns. Thus, a number of plants would be plated out on one gel, and their fragments separated into bands. Then the patterns of the bands would be compared to each other, as in the now famous 'DNA fingerprinting'(22). Any band that would differ among the group of plants in the same ratio as their alkaloid production characteristics, could be assumed to have a gene for these alkaloid production characteristics in that band.

Thus, in plating out populations of *P. arundinacea* from Table 1, we could plate out ten plants that produce gramine (and have genetic types mmtt), and ten plants that produce methoxylated tryptamines (and have genetic types M—). If we should be so lucky as to get a pattern in which all of the first ten plants differ in one band from all of the second ten plants, than we can perhaps assume that a gene fragment that codes for the production of the alkaloid represented by M resides on that band. This band could then be removed, amplified, further cut and electrophoresed to get down to the specific fragment we are interested in. The information on alkaloid ratios produced by various *P. arundinacea* lines in Table 1 many be useful in this approach.

In the past, such an approach would have been unworkable, as any fragmentation of a whole genome would have produced many thousands of bands, and so they would have been unreadable. Now however, new techniques(23) using unbroken DNA's, enzymes that cut DNA at very rare junctures to produce large DNA fragments, and pulsed-field gel electrophoresis which can handle these large fragments, make such an approach perhaps feasible.

Shotgun Cloning

In this approach, we do not look for specific gene fragments to introduce into new organisms. Instead, we fragment the DNA as before, and introduce it wholesale into an appropriate organism, probably in this case yeast cells. We then plate these yeast cells out, let them grow, and test the resulting colonies for the presence of the product we are interested in. This approach has been successful in other cases(24), and would depend in this case on the development of appropriate testing procedures for the presences of each of the enzymes desired in the yeast colonies. If a colony is producing the appropriate gene product, then presumably it has taken the appropriate gene fragment into its own genetic structure, and is expressing it. Since yeast has had its genetic structure very well studied, any new addition should be detectable and recoverable(25).

The Future of Evolution

One can see that the future of evolution, heretofore a three billion year process of chance mutation and painful evolutionary selection, from this point on will be one of deliberate choice, either by society at large,

or, more likely, certain individuals or groups within it.

Our future evolution will involve self-directed evolution of our states of consciousness, as well as our physiology. It has been said that in many cases the evolution of life forms proceeds by the prolongation of the juvenile form of a species. For example, human most closely resemble the juvenile form of the apes. Similarly, future humans may most closely resemble our juvenile form, which includes a more active pineal gland.

Each new leap of evolutionary development must be viewed with trepidation by those involved. This is a very extraordinary proposal. I submit that a clear-eyed view of our present course of development must call for extraordinary proposals.

The vision of those who have tasted the unity experience afforded by the ingestion of 5-MeO DMT will, I believe, give great impetus to the genetic development outlined above. A small, committed group could produce startling results in a matter of years. Once the full implications of the possibilities are grasped, one becomes committed to working toward the communication and implementation of this vision.

Those whose only experience with the tryptamines is with DMT, either smokable or in ayahuasca formulations, may perhaps be taken aback by the thought of being in this state full time. However, those who have used 5-MeO DMT in low doses in oral ayahuasca analog mixtures will know that this state can be one of calm connection and profound awareness.

We now know how to take a gene out of anything, and put it into anything, even ourselves. We can, for better or worse, take control of our own evolution, genetically engineering ourselves into whatever self-image the collective unconscious has been striving for. Our response to the information streaming into the collective unconscious in the form of biodynamically mediated molecules, is to reach toward that source of information, and to strive to integrate ourselves more fully with it. This we do at present in very primitive form.

However, the time is coming when we can integrate the light-filled DNA sequences from the vision plants into our own bodies. We have the means to transform our own genetic structures, as well as other advanced life forms on this planet, such as dolphins. What this implies for the future in terms of evolutionary possibilities is in line, I believe, with the invitation of the realm of light. There is an ongoing evolutionary tendency at work at every level of the universe to form elements into larger and more inclusive wholes called holons(27). A holon composed of a group of elementary particles would be a stable atom. A holon composed of human beings would be a group mind or group being. The experiencing of group energy fields and group minds while temporarily under the influence of the neurotransmitter 5-MeO DMT, leads one to imagine that the future holon that our race may become could include this vitamin supplementation as a part of our normal development. Biological evolution is indeed at a unique point in its journey. ◆

An extended version of this article with complete references will be made available on the TRP website soon. Check http://www.resproject.com for more information. Richard Thieltges can be reached at via e-mail at thie@mcn.com

http://www.resproject.com

thank you for your attention...

Mapping the Mycelial Network

A North American Distribution of Psychoactive Fungi

by John W. Allen, Jochen Gartz and Gastón Guzmán
photos by John W. Allen

It's only been forty years since R. Gordon Wasson rediscovered the traditional use of hallucinogenic fungi in Mesoamerica, but in that time more than 160 species of psilocybian mushrooms have been identified worldwide (Allen, Gartz & Guzmán, 1998 [1992]). In 1957, only seven species were recognized within the scientific community, and outside of Mesoamerica their existence was known to only a small handful of scientists who investigated their restricted use among several groups of indigenous peoples native to Southern Mexico; primarily within the Mexican state of Oaxaca.

To this day, researchers have identified the existence of hallucinogenic psilocybian mushrooms as far north as Alaska and Siberia in the Northern Hemisphere, and as far south as Chile and Australia in the austral floral zone. Psilocybian mushrooms grow from California in the western United States to China and Japan in the east. Since the ecological and geographical distribution of the more than 160 species of hallucinogenic mushrooms is so vast and diverse, we have decided to present a georaphical table of their distribution.

The following article presents photos and descriptions of four common North American mushrooms, as well as a detail listing of the various species of mushrooms which can be found from state to state in both the United States and Canada. A country by country listing of global distribution is also in the works, and will be available soon. References and more information are given at the end of the article.

PSILOCYBE CYANESCENS

(BLUE SAUCERS, WAVY CAPS)
CAP: Orange to yellow, tan when dry, conic to flat, becomes wavy with age
GILLS: Smoky reddish brown
STEM: White, hollow, bluing when bruised
HABITAT: Bark mulch, lawns, and wooded areas
SEASON: October through December
DOSAGE: 1 large shroom, 1/5 oz. wet, 1/4 gram dry

PSILOCYBE BAEOCYSTIS

(BLUE BELLS, OLIVE CAPS)
CAP: Olive to tan, blue when dry, conic to bell shaped
GILLS: Dark to gray, close with white edges
STEM: White, hollow with vertical grooves staining blue
HABITAT: Pastures, lawns, and bark mulch
SEASON: August through December
DOSAGE: 1 to 3 shrooms, 1/5 oz. wet, 1/4 gram dry
COMMENT: Be sure to always cut away spots of bacteria on caps

PSILOCYBE STUNTZII

(BLUE VEIL)
CAP: Brown to buff, margin incurved and striated conic to flat
GILLS: Spaced, chocolate brown with white edges
STEM: Yellow brown, hollow, fibrous with ring stained blue
HABITAT: Pastures, lawns and bark mulch
SEASON: July through December
DOSAGE: 20 to 60 shrooms, ¾ oz. wet, 1 gram dry
COMMENT: Three fresh shrooms found in Beauty Bark mulch

PANAEOLUS SUBBALTEATUS

(WHITE CAPS)
CAP: Reddish brown ring with dull white to yellow circle in center
GILLS: Brownish to black with white edges
STEM: Hollow with vertical grooves and some bluing at base
HABITAT: Dung, hay, lawns, horse manure
SEASON: Early spring and late fall
DOSAGE: 2-5 large specimens, 20-30 small specimens
COMMENT: Fruits abundantly in haystacks in the Eugene-Corvallis region of Oregon.

UNITED STATES

Alabama
Psilocybe caerulescens Murr. (Guzmán, 1983).

Alaska
Psilocybe cyanescens Wakefield. (Guzmán, 1983; Stamets, 1996).
Panaeolus ater (Lange) Kühner & Romagnesi. (Pollock, 1976).
Panaeolus subbalteatus Berkeley & Broome. (Miller *et al.*, 1982).

California (San Francisco to Oregon).
Psilocybe azurescens Stamets Gartz. (Stamets, 1996). (Introduced).
Psilocybe cyanescens Wakefield. (Guzmán, 1983).
Psilocybe pelliculosa (Smith) Singer & Smith. (Guzmán, 1983).
Psilocybe semilanceata Fr.) Kummer.
Psilocybe stuntzii Guzmán & Ott. (Guzmán, 1983).
Gymnopilus aeruginosus (Peck) Singer. (Stamets, 1996).
Gymnopilus luteofolius (Peck) Singer. (Stamets, 1996).

Colorado
Conocybe cyanopus (Atkins) Kuhner. (Stamets, 1993).

Florida
Psilocybe caerulescens Murr. (Jacobs, 1975).
Psilocybe cubensis (Earle) Singer. (Guzmán, 1983).
Psilocybe mammilata (Murr.) Smith. (Guzmán, 1983).
Psilocybe tampanensis Guzmán & Pollock. (Guzmán, 1983).
Copelandia cyanescens (Bk. & Br.) Singer. (Stamets, 1996).
Copelandia chlorocystis Singer & Weeks. (Weeks *et al.*, 1979).
Gymnopilus luteofolius (Peck) Singer. (Stamets, 1996).

Georgia
Psilocybe weilii nom. prov. Guzmán, Tapia & Stamets. (Stamets, 1996).

Hawaii
Copelandia cyanescens (Bk. & Br.) Singer. (Merlin & Allen, 1993).
Copelandia tropicalis (Ola'h) Singer & Weeks. (Merlin & Allen, 1993).
Copelandia cambodginiensis (Ola'h et Heim) Singer & Weeks. (Merlin & Allen, 1993).
Copelandia bispora Malençon & Bertault. (Merlin & Allen, 1993).
Copelandia anomala Murrill. (Merlin & Allen, 1993).
Panaeolus subbalteatus (Bk. & Br.) Sacc. (Merlin & Allen, 1993).

Idaho
Psilocybe fimetaria (Ortom) Watling. (Guzmán, 1983).
Psilocybe pelliculosa Singer & Smith. (Guzmán, 1983).
Psilocybe silvatica (Peck) Singer & Smith. (Guzmán, 1983).
Panaeolus subbalteatus Berkeley & Broome.
Gymnopilus aeruginosus (Peck) Singer. (Stamets, 1996).

Illinois
Pluteus salicinus (Pers.:Fr.) Kummer. (Gartz, 1996).

Louisiana
Psilocybe caerulescens Murr. (Jacobs, 1975).
Copelandia cyanescens (Bk. & Br.) Singer. (Stamets, 1996).

Maine
Psilocybe caerulipes (Peck) Sacc. (Singer & Smith, 1958).
Panaeolus papillionaceus (Bull.:Fr.) QuÈl. (Gartz, 1996).

Maryland
Panaeolus subbalteatus Berkeley & Broome. (Singer, *et al.*, 1958).

Massachusetts
Panaeolus subbalteatus Berkeley & Broome. (Singer, *et al.*, 1958).
Gymnopilus spectabilis (Fr.) Smith=G. junonius (Fr.) Orton. (Pollock, 1976).

Michigan
Psilocybe caerulipes (Peck) Sacc. (Guzmán, 1983).
Psilocybe liniformans var. americana Guzmán & Stamets. (Guzmán, 1983).
Psilocybe silvatica (Peck) Singer & Smith. (Stamets, 1996).
Panaeolus subbalteatus Berkeley & Broome. (Singer *et al.*, 1958).
Conocybe smithii Watling. (Stamets, 1993).
Gymnopilus aeruginosus (Peck) Singer. (Hatfield *et al.*, 1978).
Gymnopilus luteofolius (Peck) Singer. (Stamets, 1996).
Gymnopilus luteus (Peck) Hesler. (Hatfield *et al.*, 1978).
Gymnopilus validipes (Peck) Hesler. (Hatfield *et al.*, 1978).

Mississippi
Psilocybe caerulescens Murr. (Jacobs, 1975).

Missouri
Panaeolus subbalteatus Berkeley & Broome. (Pollock, 1976).

New Jersey
Psilocybe cubensis (Earle) Singer. (Guzmán, 1983).
Psilocybe graveolens Peck. (Guzmán, 1983).

New Mexico
Psilocybe azurescens Stamets Gartz. (Stamets, 1996). (Introduced).
Gymnopilus luteofolius (Peck) Singer. (Stamets, 1996).

Oregon
Psilocybe baeocystis Singer & Smith. (Guzmán, 1983).
Psilocybe cyanafibrillosa Guzmán & Stamets.
Psilocybe cyanescens Wakefield. (Guzmán, 1983).
Psilocybe fimetaria (Orton) Watling. (Stamets, 1996).
Psilocybe liniformans var. americana Guzmán & Stamets. (Guzmán, 1983).
Psilocybe pelliculosa (Smith) Singer & Smith. (Guzmán, 1983).
Psilocybe semilanceata (Fr.) Kummer. (Guzmán, 1983).
Psilocybe silvatica (Peck) Singer & Smith. (Guzmán, 1983).
Psilocybe strictipes Singer & Smith=Psilocybe callosa. (Stamets, 1996).
Psilocybe stuntzii Guzmán & Ott. (Guzmán, 1983).
Psilocybe subfimetaria Guzmán & Smith. (Guzmán, 1983).
Panaeolus subbalteatus Berkeley & Broome. (Ott & Guzmán, 1976).
Conocybe cyanopus (Atkins) Kuhner.
Conocybe smithii Watling. (Stamets, 1996).
Gymnopilus aeruginosus (Peck) Singer. (Stamets, 1996).

New York
Psilocybe caerulipes (Peck) Sacc. (Guzmán, 1983)
Psilocybe semilanceata (Fr.:Secr.) Kummer. (Guzmán, 1983).
Psilocybe silvatica (Peck) Singer & Smith. (Stamets, 1996).
Panaeolus papillionaceus (Bull.:Fr.) QuÈl. (Gartz, 1996).
Conocybe cyanopus (Atk.) K,hn. (Gartz, 1996).
Gymnopilus luteofolius (Peck) Singer. (Stamets, 1996).
Gymnopilus validipes (Peck) Hesler. (Hesler, 1969).

North Carolina
Psilocybe caerulipes (Peck) Sacc. (Singer & Smith, 1958).

Ohio
Psilocybe azurescens Stamets Gartz. (Stamets, 1996). (Introduced).
Psilocybe caerulipes (Peck) Sacc. (Guzmán, 1983).
Panaeolus subbalteatus Berkeley & Broome. (Pollock, 1976).
Gymnopilus spectabilis (Fr.) Smith=G. junonius (Fr.) Orton.
Gymnopilus aeruginosus (Peck) Singer. (Stamets, 1996).

Pennsylvania
Gymnopilus aeruginosus (Peck) Singer. (Stamets, 1996).

Tennessee
Psilocybe caerulipes (Peck) Sacc. (Guzmán, 1983).
Gymnopilus aeruginosus (Peck) Singer. (Stamets, 1996).
Gymnopilus luteofolius (Peck) Singer. (Stamets, 1996).

Texas
Psilocybe cubensis (Earle) Singer. (Alexopolous & Jackson, 1976.
Gymnopilus luteofolius (Peck) Singer. (Stamets, 1996).

Vermont
Psilocybe azurescens Stamets Gartz. (Stamets, 1996). (Introduced).

Washington
Psilocybe baeocystis Singer & Smith. (Guzmán, 1983).
Psilocybe cyanafibrillosa Guzmán & Stamets. (Guzmán, 1983).
Psilocybe cyanescens Wakefield. (Guzmán, 1983).
Psilocybe fimetaria (Orton) Watling. (Guzmán, 1983).
Psilocybe liniformans var. americana Guzmán & Stamets. (Guzmán, 1983).
Psilocybe pelliculosa (Smith) Singer & Smith. (Guzmán, 1983).
Psilocybe semilanceata (Fr.) Kummer. (Guzmán, 1983).
Psilocybe silvatica (Peck) Singer & Smith. (Guzmán, 1983).
Psilocybe strictipes Singer & Smith=Psilocybe callosa. (Stamets, 1996).
Psilocybe stuntzii Guzmán & Ott. (Guzmán, 1983).
Panaeolus subbalteatus Berkeley & Broome.
Conocybe cyanopus (Atkins) Kuhner. (Stamets, 1996).
Conocybe smithii Watling. (Stamets, 1996).
Gymnopilus aeruginosus (Peck) Singer. (Hatfield *et al.*, 1978).
Gymnopilus viridans Murrill. (Ammirati *et al.*, 1985).

Wisconsin
Psilocybe azurescens Stamets Gartz. (Stamets, 1996). (Introduced).

CANADA

British Columbia
Psilocybe baeocystis Singer & Smith. (Guzmán, 1983).
Psilocybe cyanafibrillosa Guzmán & Stamets.
Psilocybe cyanescens Wakefield. (Guzmán, 1983).
Psilocybe fimetaria (Orton) Watling. (Guzmán, 1983).
Psilocybe pelliculosa (Smith) Singer & Smith. (Guzmán, 1983).
Psilocybe semilanceata (Fr.) Kummer. (Guzmán, 1983).
Psilocybe silvatica (Peck) Singer & Smith.
Psilocybe strictipes Singer & Smith=Psilocybe callosa. (Stamets, 1996).
Psilocybe stuntzii Guzmán & Ott. (Guzmán, 1983).
Psilocybe subfimetaria Guzmán & Smith. (Guzmán, 1983).
Panaeolus subbalteatus Berkeley & Broome.
Conocybe cyanopus (Atkins) Kuhner. (Stamets, 1993).
Gymnopilus luteofolius (Peck) Singer. (Stamets, 1996).

Ontario
Psilocybe silvatica (Peck) Singer & Smith. (Singer & Smith, 1958).
Panaeolus subbalteatus Berkeley & Broome. (Pollock, 1976).
Gymnopilus viridans Murrill. (Hatfield *et al.*, 1978).

Quebec
Psilocybe caerulipes (Peck) Sacc. (Singer & Smith, 1958).
Psilocybe quebecensis Ola'h & Heim. (Guzmán, 1983).
Panaeolus subbalteatus Berkeley & Broome. (Pollock, 1976).

New Brunswick
Psilocybe fimetaria (Orton) Watling. (Stamets, 1996).

Watch **http://www.resproject.com** for the availability of a complete list of psychedelic species worldwide and references both in print and online.

Other books by John W. Allen:
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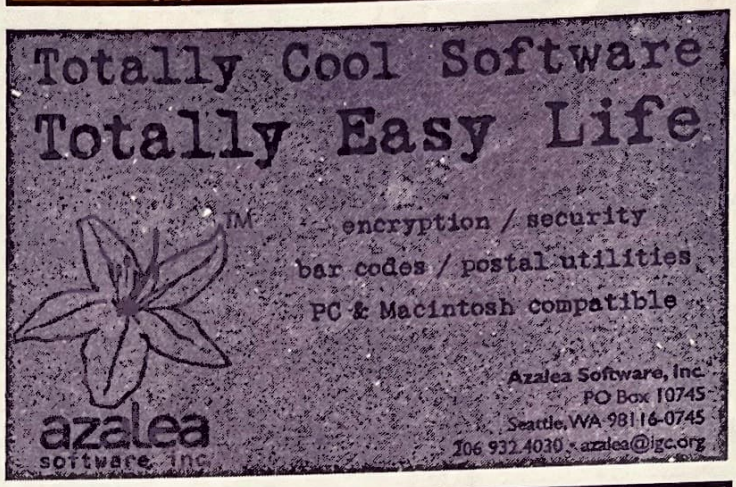

A Meeting with the Mushroom

a personal psychedelic experience

by Robert W.

Summer was getting into full swing and it was time to start thinking about this season's psychedelic experience. While I had been fortunate to experiment with some rare psychedelics such as Mescaline Sulfate and some authentic amazonian *ayahuasca* over the past year, it had been almost a year and a half since I had made a journey with my true ally Psilocybe Cubensis. I felt the time was right to return to my old friend.

I have used cubensis under many circumstances in many places, usually exotic or beautiful natural locales, but this time I was particularly interested in setting up a trip the way Terence McKenna had suggested, at night in the darkness, in a very quiet place with as little external stimuli as possible. In other words, sensory deprivation. I chose an island off the Washington coast where a friend has twenty secluded acres.

As I got ready to begin my trip I burned some sage, played my flute, and smoked a cigar as an offering to the gods. Then I poured very hot water from a thermos over 3.5 grams of powdered ***cubensis***. After letting it sit for about ten minutes, I stirred up the concoction and down the hatch it went. Within twenty-five minutes my thighs began to vibrate wildly with energy. I closed my eyes and found more light and depth with my eyes closed than with them open. As the mushrooms began to take over my consciousness I tapped into a flow of information. It seemed so ancient and yet the visuals were so high tech, almost futuristic. I began to realize that the mushroom is both ancient and futuristic, timeless and infinite. My companion on the journey noted how similar our experience was to the world wide web, only we were surfing the internet of our own consciousness, cruising through the web of our own minds. Yet somehow we were also tapping into a timeless database of universal wisdom, beauty and love. I couldn't get over how beautiful the visions were, like a swirling sea of shimmering light all around me. My companion remarked that it was like scuba diving in another dimension.

The plant teacher began to teach, gently correcting me every time my mind wandered in the wrong direction. Forgiveness, acceptance, love, suspension of judgment, no telling people what they need or should do. Many emotional releases followed, I was dancing with my emotions, able to cry at sad thoughts and laugh at funny ones. It felt as if laughter and tears are made of the same energy and crying is as joyful as laughing. It's okay to just be, I don't have to feel guilty about being alive, it's okay to feel bad, it's okay to feel good, the important thing is to let your emotions wash over you, to go in and explore them, but then move on and let go and make room for the next emotion to flow through. I realized how I fight myself day in day out, the message I'm sent is that it's time to declare peace with myself. It then occurred to me that we all really love each other, it is just our neuroses that struggle against one another. What a shame I think, but the mushroom says no, you must accept that too, it is the way the world is. Infinite love, infinite acceptance even to our faults, our neuroses, our pain.

We've been doing this forever and we always will be. Welcome, we are glad you came, we have been here all this time, and most people don't even realize it.

There was a dialogue going on but I couldn't figure out if I was communicating with my deeper self and accessing my own true wisdom, or if this was the other and I was channeling some infinite wisdom through another dimension. Whatever it was, it told me this: We've been doing this forever and we always will be. Welcome, we are glad you came, we have been here all this time, and most people don't even realize it. Isn't it funny that most people are scared of this place? Come back and see us again.

The next day I was awed at the experience – without a doubt my most profound psychedelic exploration to date. I understand now what Terence McKenna has been saying all along; music and nature are transcendent and inspirational in themselves without the mushrooms, but it is the internal psychedelic experience that offers us a unique opportunity to explore usually inaccessible regions and encounter vast landscapes of mind and consciousness, unknown realms of love and beauty and information. I'm not saying that tripping out in an ancient forest or dosing at a secluded spot by the ocean during the day is wrong. On the contrary, I have enjoyed many wonderful journeys in just such locations. However, if you have never tripped at night in the pitch black with no social distractions, I leave you with this thought - the darkness has much to offer. My thanks to Terence McKenna and ***Psilocybe cubensis***. ◆

illustration *ephasia v23.1* by Josh Stewart

Ayahuasca Cookbook

A while back we sent out a call for good ayahuasca recipes. We asked our chefs to be as specific as possible when detailing measurements and source plants. The following recipes are some of the best examples of... Ayahuasca Brews We Have Known And Loved

Recipe One:

My name is Mimosquero. Here is the methodology that works for me in preparing the Good Medicine.

Source plants and quantities (These are given in one dose measurements. Please adjust accordingly):

Mimosa hostilis from the Amazonian region via North American Entheogen supply. If pure root bark is used then 8 grams finely ground to a powder or stringy fiber is sufficient. If some of the root is mixed with the bark, then adjust the dosage to 12 grams. The magic is more concentrated in the root bark although the whole root does contain some.

Syrian rue. 3 grams finely powdered via grinder or mortar and pestle. The seeds are difficult to grind and much effort is needed. The finer the powder the better.

Distilled water treated with the juice of a lemon and 250 mg of crushed ascorbic acid (Vitamin C) is sufficient to produce an acidic aqueous solution.

Place the bark and seed powder in a small stainless steel pot and bring to a low boil (barely 100 degrees C) over an open fire (with careful attention and prayer) or a hot stove (also with careful attention and prayer). Stir the brew frequently and allow to boil for about 20 minutes. More prepared acidic water should be added as needed to keep the liquid from completely boiling off. Then decant the brew and strain through a fine wire mesh. Coffee filters are too fine, but cheesecloth, panty hose, or 'permanent coffee filters' work well. Press the mush and try to squeeze out as much liquid as possible. This can be accomplished with cheesecloth or an old fashioned rag, like a cloth diaper.

Boil the mush again in the prepared water and repeat the process for a total of three times. Combine the liquids and slowly simmer to a reasonable, drinkable amount. Observe the usual dietary precautions before drinking the brew. Some prefer to sip slowly, others to down the beverage as quickly as possible. The slow sipping probably reduces nausea although it prolongs the onset and lessens the intensity.

Results:

With pure root bark:

The onset was rapid. Within 15 minutes closed eye visuals were pronounced, a feeling of losing physical boundaries was also present. There were no physical sensations other than where the skin may be there was air. The objects in the room danced with life and seemed to rush forward into the air. A definite 3-D effect. Within another five minutes the room was no longer recognizable. Reading was impossible. Geometries were overwhelming and seemed to wash over me with an orgasmic type pleasure. Traveling. It is traveling. New indescribable places were unfolding before my eyes. Everything was vibrant and alive. There was utter peace. An ever shifting play of color never ceased to make the experience boring. Voices can be heard. Music can be heard. Yet there isn't anyone here to speak or play music. A voice asks

"Would you like to go deeper?" It was a female voice. Reassuring. As I would think about going deeper the colors would flow over me and bring me to new spaces - each one more bizarre than before. Impossible objects from the past were floating in space. Things like huge HP calculators, Vertibird helicopter toys. Scenes of childhood were evident. No entities. All in all a 5 hour experience.

On 12 grams (3 grams rue) of M.H. root and root bark:
Prepared as above. Same colorful trip but lighter. Took a full hour to come on. Relaxed feeling probably from the harmala was first noticeable. Slight nausea (not really nausea, but a strange feeling in the stomach, I almost thought about throwing up, but it quickly passed). Enjoyable, psychedelic, but without the 'journey' of the root bark. Also much more short lived.

Recipe Two:

Here's the best recipe we've ever heard of from an alien. Fast. Simple. Very, VERY effective.

Ingredients:

20g M. hostilis
3g. P. harmala
RealLemon(tm) lemon juice

1. Take 2g of ground P. Harmala (no preparation needed) orally.
2. Grind 20g M. hostilis in coffee grinder to a fine, purplish powder.
3. Create mixture of 30-40% RealLemon(tm) and water. Stir in M. Hostilis and bring to a simmer for 15 minutes. Stir frequently.
4. Filter purple liquid through colander or mesh strainer.
5. Add remaining plant matter to a new lemon juice & water mix and stir for another 15 minutes.
6. Take remaining 1g P. harmala.
7. Drain off liquid into cup (should fill it up about halfway) and drink quickly.
8. Wait 15-20 minutes. Retch.
9. Retch some more.
10. Try to regain your composure and balance after dry-heaving.
11. Lie back and listen to some didgeridoo music.
12. Begin to think you're dying, being devoured to the clean-picked bone by a school of rainbow piranhas, submerged in the hell-realms suffering brutal tortures and repeated dismemberment at the teeth and claws of the blood-dripping minions of Lord Yama and various ferocious Mezoamerican deities like Tezcatlipoca simultaneously.

13. Experience a complete and utter ontological meltdown at the face of imminent death. Recognize if the 'huasca kills you now you'll be caught in one of the hell-bardos for a minor eternity due to your accumulated bad karma. Keep repeating your name to remind yourself that you have a body. Shower repeatedly to wash away the overwhelming forces of evil fighting over your soul — in between rounds of projectile diarrhea. Marvel at just how full of shit you are.
14. Panic, but try to remind yourself that time is your ally, even though each moment seems like an eternity of suffering. Remember that "this too shall pass." Believe this with the greatest skepticism.
15. Continue this way for several hours, wondering all along if you'll actually be able to come out of the hell-worlds intact.
16. Wake up the following morning, swearing off psychedelics for at least a very long while, still fearful of inadvertently re-invoking this terrifying state of consciousness.
17. Go to bed the following night and reexperience this realm of consciousness during the hypnagogic state and nearly die of fright that you'll wind up in an ontological cul-de-sac someplace, dribbling down your chin until your time is up.
18. Eat LOTS of red meat, drink alcohol, lots of Tamasic foods. Try to get grounded. The quotidian banality of three dimensions can be a sane human's best friend.
19. Finally, several weeks later, look back on the experience without feeling a lingering sense of terror.
20. Begin to regain some perspective. Consider trying 'la purga' again under the supervision of a very experienced shaman able to help those less experienced to finally conquer these treacherous realms (as must ultimately be done). One must go

into the breach again to be fully cured.

21. Maintain a VERY HEALTHY respect for the Vine of the Soul, recognizing that it can kill, regardless of what they say about tryptamine neurotoxicity. The tryptamines won't kill you; the heart-stoppage from unmitigated terror can, though.

Recipe Three: Ayahuasca For The Whole Village

Cooking equipment:
55 Gal stainless steel drum with lid
30 gal pot with lid (55 gal drum cut down)
Large Gas burner

Items for processing plant material:
Wooden mallets
Logs with flat sides for pounding surface
Buckets to wash leaves

Plant materials used:
Banisteriopsis Caapi: 18 kilos of fresh vine
Psychotria viridis: 6 kilos fresh leaves

Plant preparation:
The vine was cut from a plant that is approximately six years old. The diameter of the pieces was from one quarter to one inch. The pieces were cut into lengths of approximately two feet. These pieces were then pounded on a log with wooden mallets. The leaves were picked and rinsed in water.

Cooking procedure:
The pounded vine was layered alternately with leaves into the large cooking pot, filling it about three quarters full. Enough water was added to cover plant materials, approximately forty gallons. The lid was put on the pot and the burner turned on high. It came to a full rolling boil in about two hours.

The burner was adjusted to keep the brew at a good medium boil with the lid on. After boiling all night, about ten hours, the lid was removed. It took another six hours of boiling to reduce the water to about half of the original volume. This twenty gallons of liquid was poured off into the smaller pot for further reduction, and was boiled on high heat for three hours until it was reduced to about one and a half gallons. This was set aside to cool.

For a final wash, thirty gallons of water were added to the large pot with the cooked down plant material. This was once again cooked all night with the lid on and boiled down the next day. The final boil down yielded about three quarters of a gallon of liquid. This was added to the first boil down yielding about two and a quarter gallons of liquid. The brew was boiled again and poured into sterile canning jars and sealed.

Dosage (results may vary):
50 ml: Euphoria, color enhancement, no nausea
100 ml: Euphoria, eyes closed visuals of geometric patterns, slight nausea
150 ml: Full on trip, geometric eyes open patterns, eyes closed visuals leading to coherent visions, some nausea

It is best to consume in divided doses of 50 ml over several hours. This helps to avoid nausea and abrupt reactions.

Note: *Ayahuasca* is powerful medicine and should not be consumed lightly or in combination with other drugs. Ayahuasca contains an MAO inhibitor, and should never be taken with an SSRI or any other prescription medications. Relative potency of *ayahuasca* source plants may vary, so please start with low doses to test for desired results. Use *ayahuasca* at your own risk. These recipes are only intended as guidelines, your results may vary.

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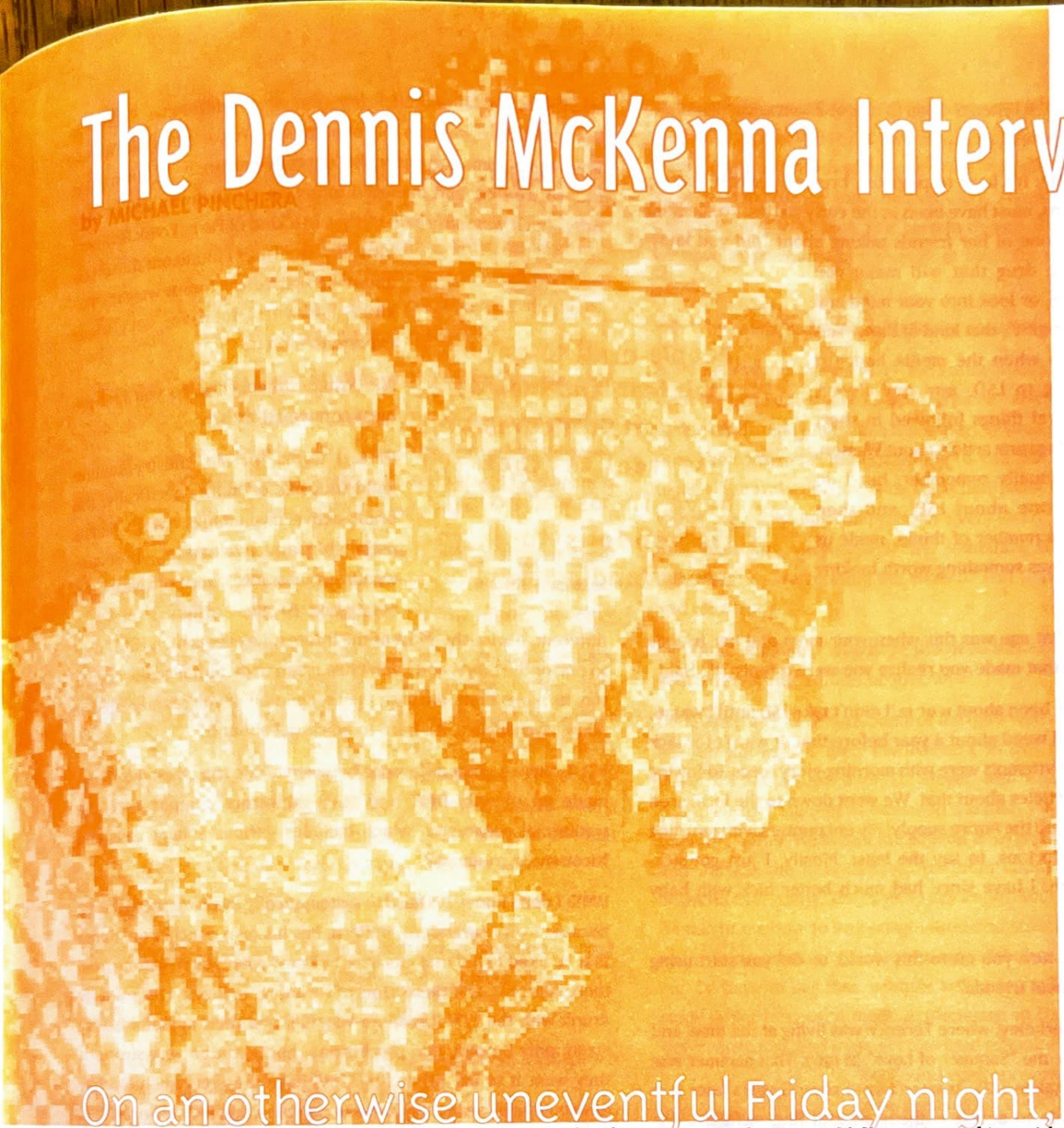
The Dennis McKenna Interview

by MICHAEL PINCHERA



On an otherwise uneventful Friday night, I sat back in a comfy chair with cigarettes and green tea at hand and chatted with Dennis McKenna. The younger brother of Terence McKenna, the man who High Times calls 'The Psychedelic Guru of the '90s, Dennis is a very pleasant, articulate ethnobotanist, who definitely has the "guru" vibe, himself. Merely communicating with him, one feels the undeniable presence of vast cosmic importance. Twenty years from now, what immense gifts will he have given to the scientific and entheogenic communities, if not to the world at large? Perhaps he will help us to learn how to finally utilize the sixth sense of telepathy, as he experienced during what has come to be known as The Experiments at La Chorrera. Perhaps he will be the time-space traffic controller when the mothership comes to take us away from this dying planet. Perhaps he will merely be the behind-the-scenes leader of the new Entheogenic Revolution. Perhaps he will find the cure for cancer. Perhaps.

Currently, Dennis McKenna is working with the Heffter Organization (http://www.heffter.org) on several projects. He will be working to find out if the actual isolate of Salvia divinorum, Salvinorin-A, is neurotoxic (as some have feared), or neuroprotective (as many now are thinking). He has been working with the UDV, in Brazil, to help identify any long-term side-effects (positive or negative) of chronic Ayahuasca use. And, he is continuing to search for more psychoactive drugs, for therapeutic and mental exploratory uses. Because of this busy schedule, I was ecstatic and quite thankful to have this opportunity to discuss several items with him.

MICHAEL PINCHERA: When did you first hear about entheogens and their divine purposes?

DENNIS MCKENNA: It's hard to pinpoint. I remember first hearing about entheogens, must have been in the early sixties. I remember my mother and one of her friends talking about "did you know they have some drug that will make you remember things, or look into your mind and realize you're a rapist", that kind of thing. This must have been when the media had just started alluding to LSD, and not always negatively. Several things followed in short order, the Life Magazine article about Wasson, which I don't actually remember; but I do remember the one about LSD, and then Huxley's books, a number of things, made us realize that this was something worth looking into.

People need to get over their fear, and their awe, to a certain degree and just realize that we have in psychedelics tremendous tools for understanding the mind.

MP: So about what age was this when your mom and her friends discussed drugs that made you realize you were a rapist?!!? Hah!

DMK: I must have been about 11 or 12. I didn't take LSD until I was 16, but I had smoked weed about a year before that. It wasn't for lack of trying, my first attempts were with morning-glory seeds, following the Newsweek articles about that. We went down to the local seed shop and bought up the entire supply! My encounters with morning glories were inglorious, to say the least. Mostly, I just got sick. Didn't do enough. I have since had much better luck with baby woodrose.

ME: Did Terence turn you on to this world, or did you start using these just with local friends?

DMK: I went to Berkeley, where Terence was living at the time, and San Francisco for the "Summer of Love" in 1967. That summer was the first time I'd taken LSD. It wasn't until several years later that I was actually able to access entheogens and find out what was going on... Terence was a student in California by then... He turned me on first, to weed, in the city park across from our house.

MP: You like (baby Hawaiian) woodrose seeds better than morning glories?

DMK: I think woodrose seeds are kind of neglected. I thought they were pretty good, though I did have one harrowing experience when I took too much.

MP: Could you explain?

DMK: Well, I was living in Boulder at the time, with my girlfriend. I must have been about 19. We went up to a lake outside town, and I must have taken about 25 seeds. She took maybe half as much. It was very strong, but also very physically uncomfortable, something like ergotism. Lots of cardiovascular type symptoms, for both of us even though she had taken less, the weight difference evened it out... and there was also lots of paranoia. We were in a cafe in this town and became convinced that the cops were in there, and trailing us... so we fled, and managed to get on the highway and hitch a ride... but it was fairly hair-raising, in a kind of Furry Freak Brothers kind of way... Later I found out that 7-12 is about the right range, for my weight... I've since had very positive, very clear experiences on it.

MP: What entheogen(s) do you feel the most connected with?

DMK: I think, for me, the tryptamine hallucinogens, or more specifically, the orally-active tryptamines, which means psilocybin and ayahuasca... Both are wondrous substances, and both have been very good to me... although they are different, obviously. Most of the interesting events of my life I owe to one or the other, and I don't just mean trips, although they count too. Its more about the path they set you on. If you're interested at all in psychedelics, it's hard to be casual about it.

MP: Is there a great difference between a Yaje trip when the Yaje is made up of only DMT and MAO-inhibitors compared to the traditional concoction which includes various Solanaceous and Nicotiana ingredients?

DMK: I don't know. It's hard to systematically evaluate these things, because every curandero, in Peru, has his own concoction, things that he liked to put in it. Its hard to know what you're getting from these sources... and there's lots of variation. In Brazil, I have mostly drunk with the UDV [União de Vegetal], and their material is very clean, only B caapi, and psychotria... but it can be very strong, if they want it to be... They [the UDV] have these ceremonies, they have buildings, essentially circular churches, and they are organized into *nucleos* which are kind of like parishes... it's all centered around these temples, which are also like community centers. They are usually circular, with raised steps like an amphitheater inside, and these comfortable chairs. They gather every Saturday night and the *mestres*, in the center, hand out the brew... I have often been to sessions of upwards of 500 people... it's actually a very moving experience.

MP: There seems to be some confusion about the actual tryptamine contents and levels of various plants. Can you help clarify the amounts of DMT and 5-MeO DMT which are present in plants such as Desmanthus illinoensis and Mimosa hostilis?

DMK: Desmanthus illinoensis... M. hostilis, all of these things have tryptamines, but you're right, there's a lot of variation. Probably the best sources are A. colubrina, or some of the Australian Acacias...

also Diploteris carbrerana, is a rare and underutilized DMT plant, and it's excellent...

MP: Don't A. colubrina seeds have high levels of 5-MeO and some Bufotenine?

DMK: No. No 5-MeO. It's mainly bufotenine, which is kind of a mystery because it's incredibly strong, but bufotenine is not supposed to be active... because it doesn't penetrate the blood-brain barrier... so goes the conventional wisdom!

MP: So does A. colubrina contain DMT or other visual tryptamines?

DMK: The one who has worked with it is Ott. He says, you grind up one seed, maybe roast it slightly first. Grind into a fine powder, and snort it. The effects are immediate and strong. He swears it works. Yes, it contains some DMT and bufotenine.

MP: There has been mention, on the Heffter Organization home page, that possibly eight other Salvia species contain chemicals like those which give Salvia divinorum her power, can you elaborate?

DMK: Well, diterpenes similar in structure to Salvinorin are actually pretty widespread in nature. They occur in a number of other Salvia species, and even species outside that family... but they are similar in structure, not identical. Nobody knows anything about their pharmacology. They may be inactive, or they may be active, or they may be neurotoxins that will drop you dead in your tracks. This is another area where caution is advised... but I've no doubt that there are many other psychoactive diterpenes out there.

MP: I am dying for species names!

DMK: Some Salvias which contain the Salvinorin "backbone" are: S. rubescens, S. splendens, S. truxillensis, S. pseudococcinea.

MP: Are those as rare as Salvia divinorum?

DMK: Don't know. You probably won't find them at your local garden shop... then again, you just might. You will have to look into it. There is a young man I met at the Millennium conference just recently, I think he's a post-doc at UCSF or something. He had a very interesting idea for characterizing a Salvinorin receptor, and I think a sample I isolated sometime ago got to him and he is now working on this project. He wants to isolate a DNA library from a mouse brain, and express that in frog oocytes; the receptors will express on the surface of the egg, and then he can incubate it with Salvia divinorum and if it spikes a polarity change, he knows he's got it! Then he can start fishing out the gene using molecular probes, and finally whittle it down... I thought it was brilliant, to the degree I understand it. He had some other interesting ideas, too, to use 5MeO - DIPT, which causes auditory distortions, to study the genetic basis of bird songs... interesting guy. This is the sort of thing that needs to happen with psychedelics... they need to be recognized for the tools that they are. People need to get over their fear, and their awe, to a certain degree and just realize that we have in psychedelics tremendous tools for understanding the mind.

MP: Wow, something that a McKenna doesn't fully understand!

DMK: Believe me, there's lots I don't understand... in fact, the older I get, the less I understand... and the more I *understand* that I don't understand... And I think this is also part of what psychedelics teach one. The consistent "understanding" if you will, that comes home to me when I take psychedelics, especially psilocybin or ayahuasca, is that, we really only comprehend a very small part of reality, and that small part, very imperfectly. Something like, "you monkeys only *think* you're running the show..." and that is both humbling and reassuring.

MP: Quite humbling! Who have you been influenced the most by in your entheogenic studies or journeys?

DMK: Well, a lot of people. Some of the ones who are most important are not known for their involvement in this field, and actually weren't. I had a supervisor, Dr. Siegel, who was a teacher when I was a master's student in Hawaii in the mid-'70s. He was really my scientific father. He taught me to look at everything with curiosity, and outside the boundaries... the man could find connections between everything. That was a very important experience for me. He taught me how to link imagination and science. And then there were others, more familiar to everyone.. Schultes... Shulgin, Wasson, etc. I'd have to say that Schultes was a big influence... I tried to study under him, even made a pilgrimage to Harvard in the early '70s to meet him, and try to get into grad school... He was wonderful, very kind and encouraging, but Harvard didn't see me as "their" kind of student, so I didn't get accepted... as it turned out, this was for the best. I ended up going to the U. of Hawaii, where Dr. Siegel took me under his wing, then I went to UBC to study psilocybin under Neil Towers, another mentor and wonderful person...if I had gone with Schultes, I would have become a plant taxonomist, as it was, I leaned more toward chemistry/pharmacology. So it was a good trade-off.

MP: Do you feel entheogen explorers are assisting human evolution by slowly altering the genetic makeup of the species, transforming into Dr. Leary's "futants"?

DMK: No, I don't really think they work on that level. Genetic evolution is a slow process, much outstripped by cultural evolution. I do think psychedelics propel the cultural evolution process... the changes of the last fifty years or so owe a lot to the diffusion of psychedelics into the wider society... and it's still happening. Things like ayahuasca are literally "emerging from the jungle" because they have a very important message for our species... I really think these plants are the way we communicate with the rest of the biosphere...I'm not speaking in any mystical sense here, I'm talking biochemistry. You really have to view these compounds in the larger context. Psychedelics, the natural ones anyway, are plant secondary compounds. A good deal of human history is shaped by human interactions with plant secondary compounds. Contacts between Europe and Asia were about spices, Europe raped the New World to get their hands on their drug and food plants, coca, chocolate, etc., even while vigorously stamping out the "demonic" entheogens.

...psilocybin and ayahuasca are wondrous substances, and both have been very good to me... Most of the interesting events of my life I owe to one or the other.

MP: Do you have any strong opinions about Dr. Leary?

DMK: Leary? I didn't know the man well, but basically, I admired him. I think he had some very interesting ideas, and in lots of ways he was ahead of his time. I remember an incident in high school. We were in one of those "antidrug" assemblies, where they get some narc to come in and basically tell you a bunch of lies about drugs. LSD was the big scare at the time, and they talked about Leary, and how they couldn't make heads or tails of what he said. And of course, I and about three other people in the school were the only ones doing drugs at that time, and we thought what Leary said made perfect sense!

MP: His own special LSD-code language!

DMK: Right. These people, the teachers, were like idiots. They had no idea what he could possibly mean by "cellular consciousness," and, you know, "journeying through the superelectronics of DNA..." but we could all relate to that, because we'd been there!

MP: What are your opinions on the feline/child anesthetic Ketamine?

DMK: I haven't had sufficient experience with it to say much. I've taken it once... it was pleasant enough, but didn't grab on, since I never repeated it. Some people seem to find a lot in it. I think it's a very safe anesthetic, and that's a good thing about Ketamine.

MP: What are your visions or ideas for December 21, 2012?

DMK: Well, you'll have to take that up with my brother. He is the inventor of the time wave, and the one who is focused on this date. I think basically what he says is true, but by the time we *get* to 2012 things will be so bizarre that it may as well be the eschatology. So I think its going to happen that way rather than some catastrophic event on 12/21/12.

MP: Do you have any thoughts on the identity of Soma?

DMK: Yes. I think clearly Soma has to be either a psilocybin mushroom or a Peganum harmala/DMT admixture combination. I don't buy the A. muscaria theory; clearly soma is a tryptamine. It could be S. cubensis; it could be P. harmala and... what? Lots of possibilities. Did you realize that the burning bush that God appeared to Moses in was an Acacia? The North African Acacias are often loaded with DMT... what was this guy smoking? Acacia could be the lost DMT admixture of soma.

MP: What can we do, as entheogenic worshippers/gardeners/explorers to positively affect the straight public's views on entheogens?

DMK: I think the thing that will ultimately persuade the public is if medical applications are found for these compounds. That can change people's ideas, and in fact, it may be the only way, in our uptight society, that these drugs can ever be integrated. But then the other possibility is religion; and I think you're going to see some interesting battles and some odd alliances in the next few years over psychedelics and religious usage. Because cults like the UDV are spreading to Europe, and the U. S., and they are legitimate religions which happen to use ayahuasca. So it will be interesting to see how all this sorts out.

MP: Have you any advice for current students of Ethnography/Anthropology/Chemistry?

DMK: Find a specialty and get very good at it. If you want to do research on psychedelics, don't go looking for a program where you can do that, because there aren't any. Instead you have to make your own program, go through the back door, so to speak. Again, this is where the right mentor can make all the difference.

MP: I would just like to thank you so much. I have greatly enjoyed this extremely informative experience! It has been a true joy!

DMK: Thanks. Over & out... ◆

Michael Pinchera is a journalism major and entheogen enthusiast. He currently lives near St. Louis, Missouri. He can be reached via e-mail at explorer@lycaeum.org. Look for the uncut version of this interview at http://www.entheogen.com.

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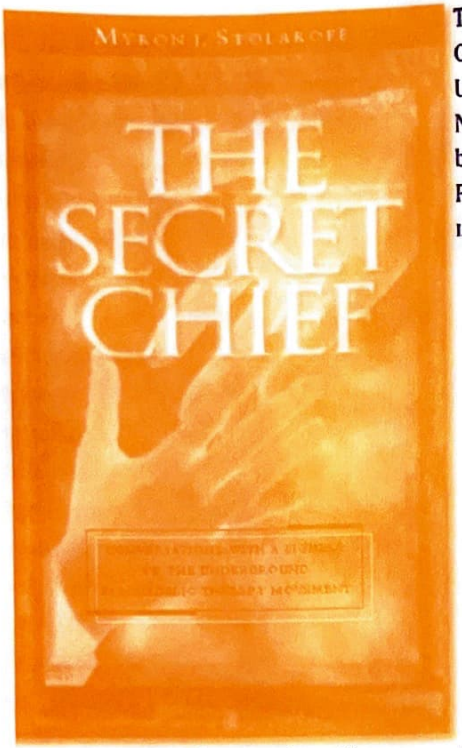


The Secret Chief
Conversations with a Pioneer of the Underground Psychedelic Therapy Movement
by Myron Stolaroff
Published by MAPS, 1997
144 pages softcover, $12.95

Imagine going for a session with your therapist. He reminds you of the structure of the session. You have brought the family pictures you were assigned to bring. The therapist offers you a ritual cup with your potion for the day. After drinking the potion you retire to a comfortable sofa and don the earphones to listen to music selected by your therapist. Time passes, then there is no time, or there is all time. You are carried away on a voyage of self-discovery and rebirth.

These therapeutic trips are the subject of *The Secret Chief*, a new book by Myron Stolaraff. For several decades, a courageous therapist (named only as Jacob in the book) guided approximately three thousand clients on such wondrous trips — despite the illegality of the psychedelic agents he used. *The Secret Chief* is a series of dialogs between Stolaroff and Jacob about the details and implications of these secret psychedelic sessions.

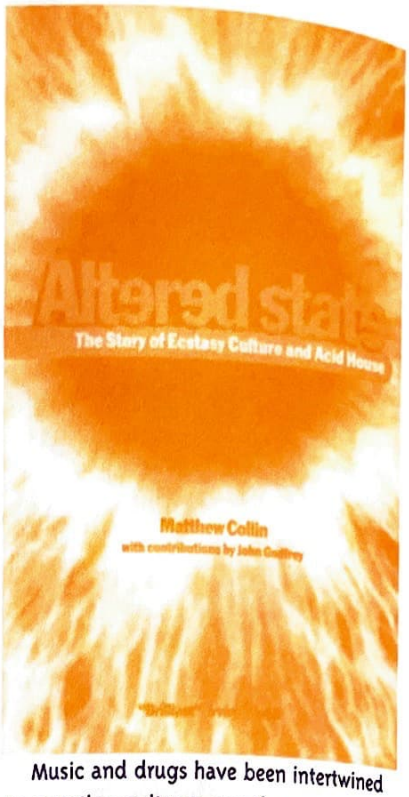
Jacob's belief in the healing efficacy of psychedelic agents and his faith in our integrative potential made his underground work more a compassionate gesture than an act of defiance. His sense of responsibility consistently stands out through the book. He logs in countless hours attending thousands of trips, always there if needed for support, reassurance, and assistance.

The Secret Chief contains forewords, prologues, and tributes by such respected names as Stan Grof, Ann Shulgin, and Albert Hofmann. But the bulk of the book is a prolonged conversation between Jacob and Stolaroff. Chapters cover the beginnings of Jacob's interest and involvement in psychedelics, the screening and preparation of clients, the individual trip, the group trip, materials and dosages used, and outcomes of specific cases. The informal, conversational style of the book makes for easy reading and accessibility.

So often, it seems that therapy is concerned with pathology. We come to therapy because of problems, and the therapy addresses and speaks to those issues. Jacob's approach seems more focused on health and its potential in the individual. One doesn't necessarily have to do anything about the problematic material that arises in a session, merely watching it and being engaged in the process is enough to engender a feeling of renewal.

The anecdotal style of *The Secret Chief* may not convince the skeptical, especially those who question whether psychedelics could have any potential benefit or use. However, a strong case is made for the utility of psychedelic agents in therapeutic settings. Our ancestors found uses for the psychedelic agents, uses that reinforced cultural values and myths, uses that effected personal and communal healing. Jacob's work points the way for us to do the same.

—*Douglas Aanes*



Music and drugs have been intertwined in countless cultures over the ages. Youth cultures in the US and Europe have played out this dynamic over and over again in the past decades: the psychedelic movement produced psychedelic rock, reggae music celebrated the marijuana plant, and grunge supposedly glamorized heroin. One of the most striking recent partnerships of drug scene and music scene, that between Ecstasy and Acid House, is chronicled in the illuminating new book Altered State, by Matthew Collin.

Readers looking for a collection of 'trip stories' will be disappointed, but those who stick around will be treated to a well reasoned history of the roots of Ecstasy culture and the corresponding development of a musical form known variously as garage, house, acid house, and jungle. Collin and Godfrey, who collaborated on the planning and research of the book, are both former editors of i-D. Collin has written for The Face, Wired, and The Observer on such topics as popular culture, travel, music, technology and drugs - all strands that come together in the story told here.

Collin has placed the rave scene of the late '80s and early '90s Great Britain squarely in a political and historical context, examining the effects of Thatcherism on British youth and the corresponding liberalizing effects of Ecstasy culture on British laws and mind set. He traces twin trails - the rise of Ecstasy from early psychological trials in the States and the rise

Altered State
The Story of Ecstasy Culture and Acid House
by Matthew Collin
Published by Serpent's Tail, 1997
314 pages softcover, $16.99

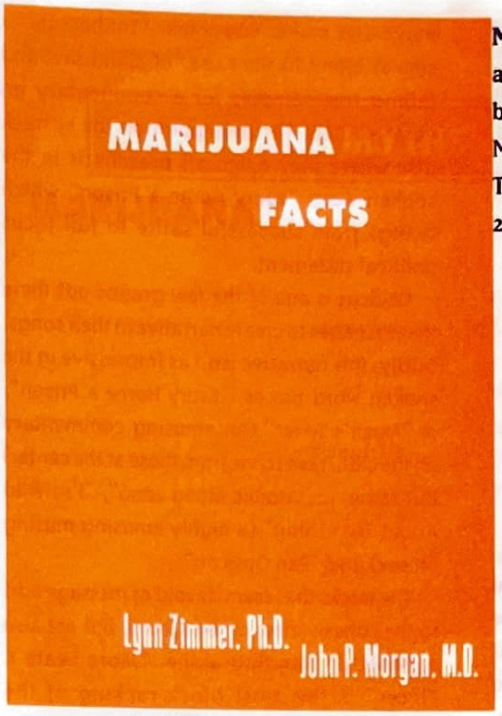
of house from its early manifestations in the black and gay disco clubs of New York and Chicago in the '70s, through the glory days of the London rave scene where blissed-out ravers felt that the world would surely be a better place if only more people would open themselves up to the E experience.

The parallels between the Ecstasy scene and the early days of the LSD explosion are duly noted. Collin also deals with the inevitable coming down stage, when idealistic trippers were confronted with police crackdowns, increased violence as the criminal element moved in on the lucrative E trade and the realization that seemingly lifelong bonds formed under the warmth of an Ecstasy rush didn't stand up to the pressures of a bona fide youth uprising. For American readers, Altered State is also interesting for its insight into the laws, culture and traditions of Great Britain - both familiar and jarring to an American reader.

If I have a complaint about the book it is that the pattern that Collin points out so convincingly, that of the first rush of enthusiasm of new E converts, followed by the burgeoning of a new culture, followed by a crash, and then a morph into a new manifestation of culture, while seemingly sound becomes somewhat tedious in the last third of the book as the rave cultures of the '90s get somewhat short shrift.

On the whole though, Altered State is well written and packed with information. All the big names are here - both bands and provocateurs, yet it is the innumerable interviews with lesser known DJs, rave organizers and tribes that pay off, offering a hype-free glimpse into a dynamic culture.

—Kymmco



Marijuana Myths Marijuana Facts
a review of the scientific evidence
by Lynn Zimmer, Ph.D. and John P. Morgan, M.D.
The Lindesmith Center, 1997
241 pages softcover, $12.95

Marijuana is highly addictive. Marijuana is a gateway drug. Marijuana is more potent today than in the past.

These are a few of the twenty common assumptions about marijuana that Lynn Zimmer, an Associate Professor of Sociology at Queens College, City University of New York, and John Morgan, physician and Professor of Pharmacology at City University of New York Medical School, examine in their current release *Marijuana Myths Marijuana Facts.* Zimmer and Morgan devote a chapter to each of these 'marijuana myths' in which they examine the existing scientific evidence to see whether these assertions hold true. Their conclusion, on almost all counts, is a resounding no.

The book, the first release from the drug research foundation, The Lindesmith Center, is exhaustively researched, with about one-fifth of the volume taken up by references. However, the text is written in a very simple, nontechnical style. It is not, by design, a scientific treatise, but rather a summary and analysis of existing research. Therefore, it is valuable both as an overview for parents, educators, or anyone wanting an introduction to the subject, and as a great reference tool for serious drug policy researchers.

The authors definitely have an agenda, and they acknowledge this up front by saying that they set out to "promote discussion of less punitive [drug] policies... by presenting the facts about marijuana." They achieve this most effectively when they take much cited claims used in antidrug campaigns and show us exactly where the statistics come from. For example, in the chapter on Marijuana, Sex Hormones and Reproduction, Zimmer & Morgan quote the publication "Marijuana: Tips for Teens" published in 1995 by the Center for Substance Abuse Prevention. This pamphlet includes the oft-repeated claim that "marijuana .... [causes] lower sperm counts and difficulty having children in men." This is a belief that is widely accepted, even by some marijuana users and activists. So where does the evidence come from? Well, it turns out that these claims stem from a 1974 study conducted by a researcher named Robert Kolodny in which he reported that frequent marijuana users had lower sperm counts than occasional users. However, subsequent research has failed to repeat these findings. In fact, in a 1979 study, men spent thirty days in a closed lab smoking up to twenty marijuana cigarettes a day. When researchers examined their sperm counts, none were outside normal ranges.

Most of the chapters do not discuss actual studies in such a detailed manner, which occasionally weakens the author's arguments since the reader must take their interpretation of the evidence on faith. However, I found most of their arguments compelling and their reasoning solid. *Marijuana Myths* is an interesting overview of a controversial topic, and a solid reference tool for further research.

—Kymmco

Coldcut
Let Us Play
Ninja Tune

I have not been so happy with a musical purchase in a long long time. But it would be misleading to refer only to the musical disk that comes in the two CD *Let Us Play* set. Also included is a CD-ROM which, if it were sold by itself, would be worth the price of purchase; providing a significant sample of Coldcut videos, background info, and a **Coldcut** dictionary (a la Ambrose Bierce's *Devil's Dictionary*) that caters to the DJ/technology-junkie culture in a way that is not only amusing, but inspiring as well.

Coldcut has been on the scene practically since its inception. To give you an idea, they were sampled in the seminal '80s audio collage "Pump Up the Volume"; they were kickin' and mixin' with **Eric B. & Rakim** back in the day; they were integral in the creation and development of the group **Yaz**; and if that isn't enough, they are **Ninja Tune**. They have helped to both define and push the art of the DJ and producer. *Let Us Play* is an excellent collection of where they have recently been and where they are headed. They pull and weave samples, sound bytes, beats and bass in a way that makes you move in steady syncopation.

Perhaps more impressive than the DJ/production skills they've picked up in the numerous years spent in studios, clubs, used record stores, and scanning CNN, is the fact that **Coldcut** actually has something to say. In a genre so riddled with talk and braggadocio, **Coldcut** has a message for the masses. On tracks like "Atomic Moog 2000", "Timber", "Panopticon", "Noah's Toilet", and "Every Home a Prison" **Coldcut** revives the notion that music doesn't have to be vapid and/or whiny to have a groove. "Atomic Moog 2000" weaves together the story of our history with atomic energy and the bomb in a way that makes you move and makes you think. "Timber" has a similar effect in their use of chain saw and falling tree samples for a commentary on deforestation. The only point on the 13 track disc where they come off preachy is in the spoken word "Every Home a Prison" which swings from successful satire to full focus political statement.

Coldcut is one of the few groups out there that manages to create narrative in their songs. Oddly, this narrative isn't as impressive in the spoken word pieces, "Every Home a Prison", or "Noah's Toilet" (an amusing commentary on the club/rave scene from those at the center) but rather in "Atomic Moog 2000", "I'm Wild About That Thing" (a highly amusing musing on sex) and "Pan Opticon".

The tracks that seem devoid of message add to the cohesiveness of the album, but are also capable of standing alone. "More Beats & Pieces" is the most block rocking of the remainders as well as being the most obvious and crowd ready track on the disc. "Music 4 No Musicians", "Space Journey", and "Cloned Again" all remain intriguing constructions that will carry you along on their own little trips.

To put it simply, *Let Us Play* is amazing. This is an album that everybody should own, and it may very well prove to be a standard by which a new electric music will be measured.

—adm

X-ECUTIONERS
x-pressions
Asphodel

The **X-ecutioners** (a.k.a. the **X-Men** before Marvel Comics threatened litigation) are 4 DJs, 8 turntables, a handful of microphones, and so much vision it makes me dizzy. The X-ecutioners make the best of **Grand Master Flash**'s original turntable musings look like the awkward works of a Grandfather Flash. That is to say, the **X-ecutioners** return mixing and scratching to center stage.

A third of the 22 tracks on *x-pressions* are hip-hop MC/DJ songs where the vinyl workings of the X crew float between support and spotlight. Not merely showboating, but rather adding another layer to vocal tracks, the **X-ecutioners** demonstrate the rare ability to both solo and play a backup role. The vocal tracks, with the exception of "Turntabilist Anthem", "Poetry in Motion", and "Musica Negra" are not as strong as the DJcentric constructions.

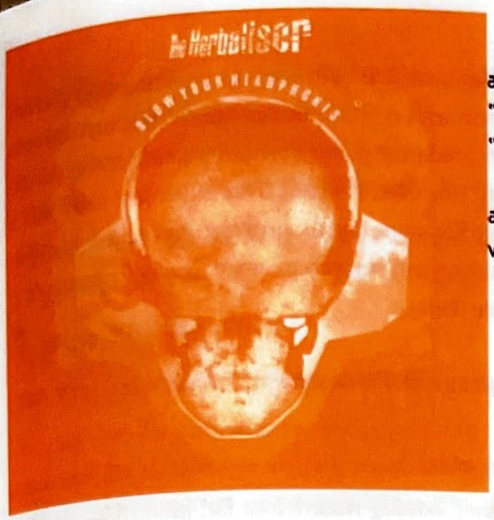
The **X-ecutioners** reach levels of transcendence as a group with the turntable tracks "Get Started", "The Countdown", and "Mad Flava". It's on these tracks that they seem most like a group with a cohesive vision exploring new territories and less like a bunch of talented individuals demonstrating their skills.

Even the solo tracks are collaborations of sorts between group members, often with one on the tables and another producing and mixing. Still, I think it is in the group dynamic that their collaborative constructions are most interesting and enlightening. There is an energy in the group tracks which makes them more exciting than the others on the album.

On "Turntabilist Anthem", "Poetry in Motion", and "Musica Negra" we are offered real insight into what it's like on the inside of the NYC hip-hop scene, and what it means to be black making music in the white world of business exec rap.

The **X-ecutioners** do a damn fine job of balancing the interesting and more heady with the tracks that make your ass move and your head bounce. And as MC Hale the Armageddon eloquently illustrates in "Poetry in Motion" the **X-ecutioners** are "dedicated to taking hip-hop to a higher plain, never allowing it to fall victim to the corrupt system, defin(ing) this (hip-hop) culture."

—adm



The Herbaliser
Blow Your Headphones
Ninja Tune

Set them two turntables on fire! is, certainly, one of the best samples on an opening song (billed as "opening credits") that I've heard in a while. **The Herbaliser** is two DJ/producers and an alternating mix of rappers, with WhatWhat being the most notable MC. Together, they've made an album that is a compelling and transporting journey.

The lyrical pieces are spaced evenly throughout the album (roughly a 2 - 1 ratio of lyric to non) and are the propelling force. However, with every lyrical burst of energy, the slide into harmonic assemblage comes naturally and easily. In fact, the only point that stands out and gives one pause is WhatWhat's freestyle "Hardcore" where she improvises such memorable lines as "Yeah I remember you down in KayBee buying Barbies for your mom / He said, 'No, I was buying that Barbie for myself Indeed, it seems like Jake Wherry and Ollie Teeba, the two kids behind **the Herbaliser**, were hanging out in the same headspace as the folks that make up the dynamic Japanese acid Jazz trio **United Future Organization**. UFO's latest release, *3rd Perspective*, is a sort of meditation on the theme of spy movie soundtracks. Though **UFO** takes several steps to update the sound, the compositions would fit right into Sean Connery's 8-track player. **Herbaliser** does, however, update the spy theme so that it fits seamlessly into the rest of album.

The most impressive sample on the album is a theramin (though, in actuality, I'm sure it's just a keyboard thing) wavering on "Shocker Zulu". Most of the sound assemblages, with the exception of "Shorty's Judgment", steer away from constructing narratives and tend more toward compositions. The compositions are pleasant and vary nicely between the sing-songy "Intermission" and the movement demanding "Mr. Chombee has the Flaw".

As a whole, this is a lengthy and impressive album which definitely gives you your money's worth.

—adm

Mother of Moth
mother of moth
DMT

Mother of Moth is one of those independent underground projects commonly found in the psychedelic community. A young musician gets together in a studio with a couple of friends (inebriant optional), digs deep into his or her soul and pounds out a demo tape.

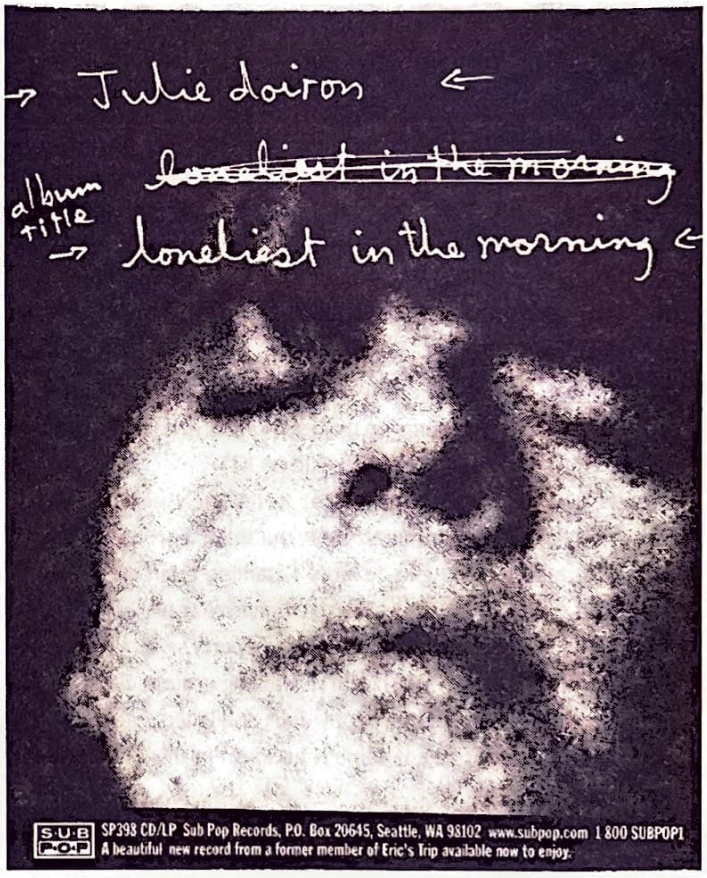
However, unlike a lot of the flat and over-blended techno you hear coming out of the underground today, **Mother of Moth** represents something *totally* different. This trimmed-down yet hypnotically orchestrated acoustic ensemble delivers the kind of music you'd find in a hashish-laden harem in shangri-la. Fat open-tuned guitar rhythms and hypnotic ragas breeze through; eastern trance chanting and subliminal voices tickle your inner pleasure centers; shimmering low-tech percussions create an airy weightlessness and effortlessly erupt into full-blown vedic trance-jams. This is trance with an immediacy. It is erotic, hypnotic, and with headphones will definitely evoke a euphoric and full-blown illuminated mind state.

The only band I can think of to compare *Mother of Moth* to is *Muslim Gauze*, but this is better. Also think *Led Zeppelin* in their fullest raga phase on 'Physical Graffiti,' but Robert Plant is replaced with Hindu prayer chants and whispering voices. This is a fine, fine demo. The only problem is that it is too short, and by the time they are over you *will* be craving more.

Incidently **Mother of Moth** is primarily the work of just one person, Patrick Archie, who arranged, performed, and produced the entire thing. Please contact him for a demo at archieph@gamma.hendrix.edu. They are cheap, and well worth it.

Given the popularity of trance in the underground, It seems only natural that a lush acoustic-style performance of this kind could quickly catch on. I would love to see a resurgence of all acoustic trance bands, and seriously hope **Mother of Moth** can find its niche.

—James Kent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KETAMINE

continued from page 33

days to a week before going in again; 2) Never take Ketamine impulsively, or just because you're bored. This can lead to long-term binges and/or spree usage behavior; 3) Maintain a strict routine that lets you maximize the results of each session. There's no need to be in there all day when you know what you're going in for; and 4) Never let your Ketamine use take priority over your real-world responsibilities. Trust me, you're always needed elsewhere. The emergent state should be your refuge, not your permanent address. If you moderate your use and keep your feet on the ground you'll be fine. If you become indulgent and careless, Ketamine will pull you down.

Ketamine and The Future

Considering Ketamine's profound ability to reliably and repeatedly induce hypnotic, lucid, and dreamlike states of deep relaxation, it is obviously an invaluable adjunct tool for therapies which deal with stress management, behavior modification, personality programming, reprogramming, metaprogramming, memory regression, habit change, etc. To limit its sanctioned use to anaesthetic purposes seems repressive, and even now there are studies being done to test its therapeutic potential. In the UK, Dr. Karl Jansen is using Ketamine to study the neurochemical implications of near death experiences (NDEs), and in Russia Dr. Evgeny Krupitsky is studying the effects of Ketamine Psychedelic therapy (KPT) on treating alcohol abuse.

However, like all great secrets eventually do, "Special K" has finally trickled down to the street level and has become a standard black market menu item among ravers, club kids, and psychonautic thrill seekers. It's no surprise that popular music bands like the Chemical Brothers, Kula Shakur, and Tool have started throwing around references to K in their work — some veiled, some not so veiled. Last season the X-Files used Ketamine as the convenient psychoactive plot device of the week (even though they erred a little with some of Ketamine's subjective psychoactive effects, like a single K session lasting 6 hours to 3 days. A little inaccurate, but hey, it's TV. We'll let them slide). Even Time Magazine couldn't resist the urge to jump on the bandwagon, and recently printed a cautionary article entitled, "Is Your Kid on K?"

There's no doubt in my mind that Ketamine's popularity as a recreational drug will continue to grow, but this is a troubling trend. I predict that there are going to be more Ketamine-related accidents in the near future, and I would just like to emphasize again that Ketamine should *not* be used as a recreational drug in a party setting. It is simply too dangerous to be on K when you're walking around, dancing, etc. Unsafe use *will* wind up getting people hurt and killed, and it is only a matter of time before there is some K backlash in the hallowed halls of government.

Although laws vary from state to state, Ketamine is still fairly legal to possess. It is as high as Schedule III in some states, but unless you are trying to unload crates of it on the Mexican border, it is unlikely you would ever be prosecuted even if you were unfortunate enough to get caught in possession. However, it wouldn't surprise me if there was a federal ruling to place Ketamine into a more restrictive schedule within the year. That's usually what happens to any drug when parents find out that their kids are doing it. ◆

James Kent is the Director of *The Resonance Project.*

For more Ketamine info online:

Lycaeum Ketamine Archives, including research from Karl Jansen, M.D.
http://www.lycaeum.org/drugs/synthetics/ketamine/

MAPS Current Research, Including KPT research by Evgeny Krupitsky
http://www.maps.org/cgi-bin/maps/maps-query.pl?pattern=Ketamine

Thr Ketamine Konudrum, an erlier work by James Kent
http://www.lycaeum.org/~lux/alchem/konun.html

Memorial for DM Turner
http://www.resproject.com/one/dmturner.html

Francis Jeffrey

continued from page 25

FJ: Seymour Pappert defined an intelligent system as a network including intelligent and unintelligent entities. Self-awareness, in a limited and objective sense, may be simply "lucidity" as I defined it in relation to eLPHIN's "CNS" (Conscious Network System); but in a broader sense, I think of consciousness as inseparable from intelligence, and vice versa. The intelligence-consciousness that creates the world is present everywhere-everywhen. The trick is to NOT loose touch of it by substituting false icons — like the worship of supercomputers, systems, internets, "the media" and its McLuhanesque gods.

TRP: If a network could develop an "intelligence," how would that intelligence manifest itself? How would this mesh with the current Sci-Fi model of AI.

FJ: Usually SiFi is about future technology, but its idea of AI is right out of the past. Like Pappert, I define an intelligent system as a network including intelligent beings; so the best a technical network can do is to interfere as little as possible. Not surprisingly, today there seems to be a lot of technological Satanism, with strong elements of popular masochism. By that I mean the worship of the DEFECTS in the system, a system which has exhausted human beings, by being both fast and inflexible. The defects are the most obvious apparition of the unseen, like the thunderbolts of Zeus, so they attract devotion. Just as television has largely replaced the cathedral as popular virtual reality, religious sentiment has transferred onto technology. A really bad scenario would be— like with nuclear energy—if another deep penetration into nature were to be harnessed for political and economic power before it's widely understood and integrated in the context of culture. Another Bad Idea: we know from history, both recent and ancient, that certain cultural patterns can make people

awfully stupid; and we know from industry that economic expediency can sow confusion amplified by immersive technology. Since computers (including their software) are a lot dumber than we are (most of the time), their rising power could be a force for declining intelligence in our world.

TRP: Will dynamic, self-modifying operating systems blur the hierarchical model [distinction] between user, programmer, and program?

FJ: Not just BLUR, but abolish it.

TRP: What is your vision of the future of the Internet?

FJ: It will certainly grow; what I'm rooting for is, like I said in the 1995 patent document [for eLPHIN], " In the ideal expansion of this concept, the entire telecommunications network assumes the capabilities of a general-purpose programmable computer serving its many users."

TRP: Are there any eLPHIN developer's kits, documentation, or sample apps that can be accessed online?

FJ: You can order it on-line. We offer one unit packaging, under the "ANGEL" TM, that can be shipped on a Jaz or Zip disk, or pre-configured on a NeXT workstation, intended for personal use and experimentation. The system is modular, including programs that maintain the virtual cellular space, interfaces, and "Clumps" and "Clumplets" that plug together in ways that are far more flexible and powerful than is possible with Java apps and applets. ◆

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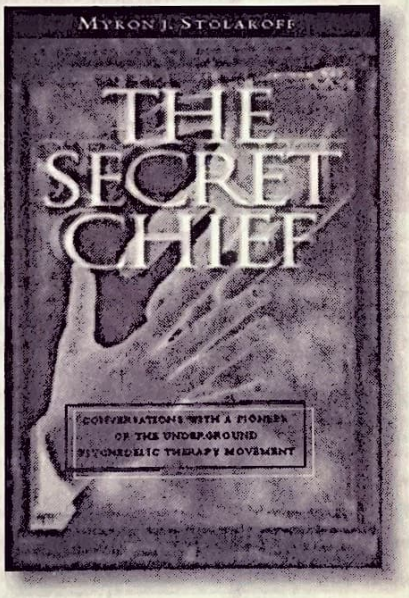

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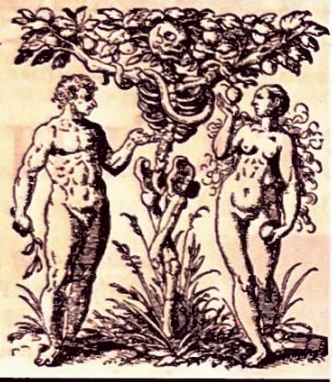

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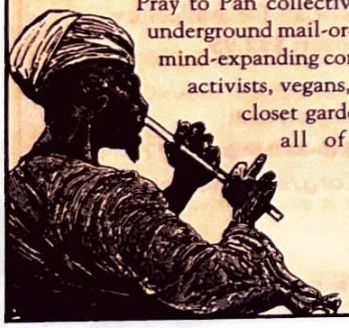

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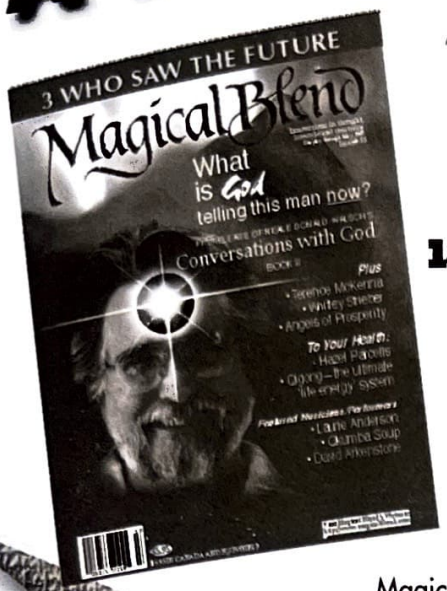

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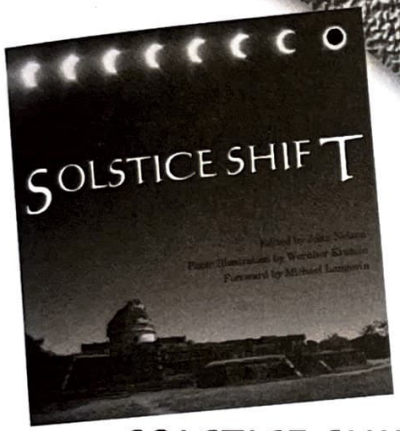

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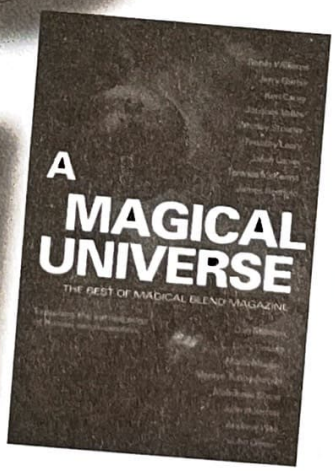

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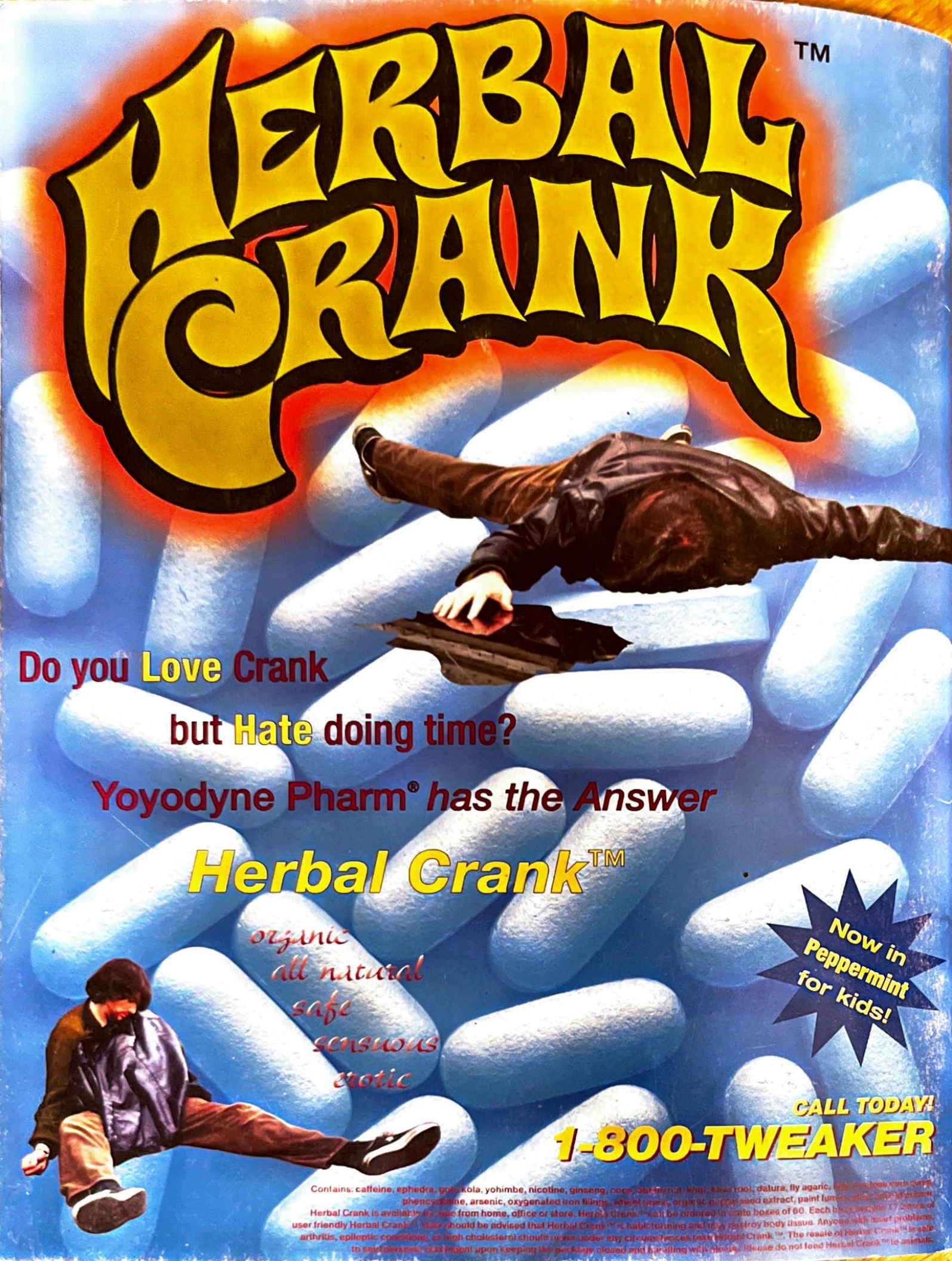
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